



IBM Bluemix

Usability Evaluation

Andre Siagian · Lavanya Kumar · Lu Huang · Michael Nguyen

Table of Contents

I.	Executive Summary	2
II.	Introduction	3
III.	Methods	4
IV.	Findings and Recommendations	7
	Platform Reliability.....	7
	Creating a WordPress Application.....	12
	WordPress Boilerplate	15
	Adding a Service	17
	Main Dashboard.....	20
	Application Dashboard	21
	Documentation.....	22
V.	Discussion	24
VI.	Conclusion	25
VII.	References	26
VIII.	Appendices	27
	Appendix A: Preamble	27
	Appendix B: Pre-Questionnaire	28
	Appendix C: Tasks	29
	Appendix D: Post-Questionnaire	31
	User Interface	31
	Post-Questionnaire Debrief	32
	Appendix E: Blank Logging Form	33
	Appendix F: Logging Notes & Task Performance Data.....	34
	Appendix G: Pre-Questionnaire Responses.....	38
	Appendix H: Post-Questionnaire Responses.....	40
	Appendix I: Raw User Data.....	44
	User 02.....	44
	User 03.....	49
	User 04.....	54
	User 05.....	59
	User 06.....	63

Executive Summary

This paper presents our main findings and recommendations after conducting multi-part usability tests, which included tasks as well as pre and post questionnaires. Many of our participants were experienced developers who had interacted with other types of platforms as a service (PaaS). None of them had any prior experience with IBM Bluemix.

Test Objectives

The goal of our usability test was to analyze and evaluate the current Bluemix application interface based on Jacob Nielsen's Ten Usability Heuristics. We conducted ninety minute sessions with six users and asked each of them to perform tasks centered on the creation of a WordPress application. In addition, we presented tasks related to adding a service as well as searching for specific information in the Bluemix Documentation. We also asked participants to fill out a pre-questionnaire (so that we could collect some basic demographic information). As part of our post-questionnaire, we also presented reflective questions regarding the aesthetics and navigability of various pages. This resulted in qualitative data on the participants' experiences and opinions regarding Bluemix.

Findings

Our usability tests helped refine our research into five high-level findings, which will help improve the overall usability of Bluemix:

- There are several reliability issues with the system in terms of application staging, creation, and restaging.
- Most warning messages are unclear and lack recovery options for the user.
- The process of creating an application lacks a natural workflow, causing breakdowns.
- Users found it difficult to find specific information in the 'Docs' page.
- While Bluemix is visually attractive overall, the information architecture does not adhere to several usability heuristics.

Introduction

Bluemix is a PaaS cloud-based tool used to develop software with increased efficiency and collaboration. Bluemix's target customers consist of development professionals and IT managers of small to mid-size organizations.

Bluemix is primarily used as a development platform and host for creating applications. Developers are able to search for peripheral and supplementary services, from both IBM and third-party organizations, that can integrate well with their projects.

To follow up with our heuristic evaluations, we decided to conduct in-person usability studies with six users from various technical backgrounds. Since our participants were new to Bluemix, we designed tasks that were simple but also tested specific features of the application. We hope that the results from our usability study can “inform design by gathering data from which to identify and rectify usability deficiencies existing in products...” (Rubin and Chisnell 21). Our research questions are as follows:

- What are some breakdowns in the application creation process using Bluemix (specifically in the context of creating a WordPress Application)?
- How easy is it to search for and add a service?
- How would a user interact with the help and documentation provided by Bluemix?
- What are the user's thoughts on the layout, aesthetic, and navigability of various Bluemix pages?

Methods

Methods Overview

Conducting our usability test in response to our initial research questions helped identify major usability flaws (as well as strengths) of Bluemix. We conducted in-person usability tests to reinforce and add to our findings from our usability study. We transformed our questions into tasks and presented them to our users to simulate tasks users would typically perform.

Participant Recruitment and Selection

Recruitment

We specifically searched for users who are professional web or app developers, stipulating that the ideal candidate would have experience in cloud development using PaaS platforms. We sent an outreach email outlining the purpose and the breakdown of the study, and mentioned the \$150 incentive for completing this usability test.

We used multiple channels to recruit participants, which included developer-focused Meetup groups, reaching through personal and IBM's networks in Ann Arbor. Eventually, our team chose 6 participants including a single pilot test.

Selection

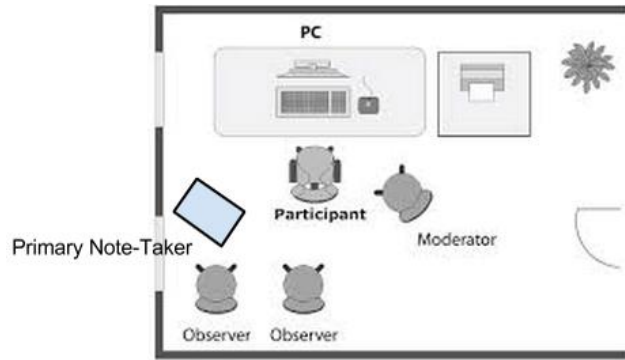
We wanted to ensure that the qualitative data collected for Bluemix would reflect a broad range of users and user behaviors. We want to select users from varying levels of experience based on:

- Number of coding languages known, as well as proficiency
- Familiarity with different parts of the product delivery cycle
- Gender, age
- Overall industry experience (and in which industries or companies)

These were verified by each user during the pre-test questionnaire administered at the beginning of each usability test session.

Physical Setup and Recording

We opted for a 'simple single-room setup' but with a slight modification (Rubin and Chisnell 102). We had the moderator and note-taker sit on either side of the participant but with reasonable space so as not to crowd them. All other observers (if any) sat at a distance from the user. However, we typically had about two to three members of our team present for each usability study. While the moderator guided the flow and agenda for each session and the note-taker recorded actions and direct quotations of the participant, the other member had the opportunity to ask additional clarifications.



Usability test setup

To record the actions and audio of our participants, we used Techsmith’s Camtasia. This software was simple to use and required the click of a button to capture both the audio of our subject’s and a screen recording of their actions. We also asked each participant what computer and browser brands they most often used to make them comfortable during the study and to prevent external factors from affecting their task performance.

Session Breakdown

Each session included a preamble, a pre-questionnaire survey, the usability tasks, a section specifically evaluating the heuristics of frequently used screens within the platform, and a post-questionnaire (see Appendix). Having a preamble script allowed for consistency in the type of information that was presented to each participant prior to the test. We then asked each participant to complete a paper pre-questionnaire to collect basic demographic information. During the task-based portion of the study, the moderator would pass each task to the user to read aloud before attempting. Participants were asked to use the “think-aloud” method so that we could better understand their motives for completing the tasks. The three scenarios that placed the set of tasks in context are presented below and are based on our research questions.

Scenario 1: *Imagine you are a web developer at a mid-sized company. Your task is to create a WordPress site for a client using the Bluemix software that you see in front of you.*

Scenario 2: *Your co-worker from the IT department has requested the ability to collect data about how smoothly your WordPress site is running.*

Scenario 3: *Your co-worker is testing out the WordPress site you have just created but she is having trouble uploading a file to the site.*

Next, users were asked to evaluate the aesthetic, navigability, and overall intuitiveness of the following screens.

- User Dashboard
- Application Dashboard
- Catalog

- WordPress Boilerplate Page
- Documentation

For more details on methods and the script, please see the Appendix.

We concluded the session by asking each participant a set of questions and allowing them to reflect on their experience and interaction with Bluemix. Participants were also asked to elaborate on their opinion of Bluemix and specific tasks they found difficult to complete.

Severity Rating

Score	Explanation
0	I don't agree that this is a usability problem at all
1	Cosmetic problem only—need not be fixed unless extra time is available on project
2	Minor usability problem—fixing this should be given low priority
3	Major usability problem—important to fix, so should be given high priority
4	Usability catastrophe—imperative to fix this before product can be released

Logistical Limitation

One critique involved some lingering questions that were unanswered by our initial outreach email. Although our email clearly explained the background and purpose of our usability tests, it did not include key logistics, such as the location of the usability test, along with the fact that parking is free after 6pm on Monday through Saturday. Unsurprisingly, most of our users had trouble entering North Quad, especially if they had shown up before we were able to greet them from ground level. Finally, users remarked that they had brought their laptops to conduct our usability tests, despite our introductory email not clarifying whether or not it was necessary for users to bring their own.

Findings and Recommendations

Platform Reliability

Based on our findings from user interviews, surveys, and the usability test post questionnaire, the reliability of a platform's system, components, features, and integration process is consistently the top concern for professional developers and decision-makers at IT organizations. This is especially true when it comes to platforms and infrastructures for developing applications for clients, or for meeting critical internal organizational needs. ANSI (American National Standards Institute) defined software reliability as “the probability of failure-free software operations for a specified period of time in a specified environment”, of which one basic metric is “frequency of failures”.

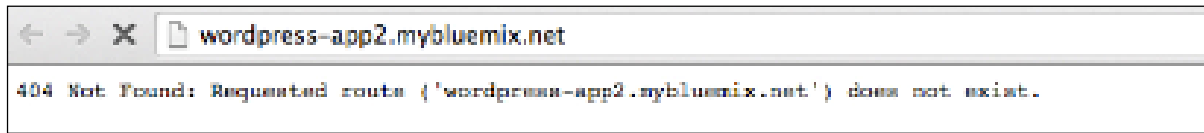
The underlying reasons behind the focus on reliability is the concerns of professional developers and IT managers on: (1) the efficiency of their development process, and (2) the integrity of the software or application products that they have to develop, deliver, and/or maintain for their clients or for their organizations. Professional developers, and let alone managers, would not risk adopting a new PaaS if it is perceived as having a high probability of disrupting, or worse, jeopardizing their production.

That being said, our team identified Bluemix's reliability issues, and the inadequate mechanisms for aiding users in dealing with malfunctions, as the highest priority usability breakdown. Professional developers and IT managers looking to support their development work will find it risky to adopt a platform perceived as unreliable.

Following are evidences of reliability issues and lack of proper error messages and feedback in Bluemix:

- (1) U3, U5, and U6 attempted to access their WordPress because Bluemix had notified them that the application staging process had completed. A blank screen showed up when the users clicked their site's URL. U5 checked the “inspect element” and found it to be a server issue.
- (2) Bluemix notified U2, U5, and U6 that the WordPress application they created had “stopped running”. U6 indicated that a simple WordPress application should never fail the first time.
- (3) U6 tried to access his application's monitoring and analytics' interface on Bluemix and a blank screen with “Bad Request” showed up. He hypothesized that Bluemix attempted to send a cookie to the 3rd party site but experienced failed cross-site login request. There was no information about the service's status, what caused the error, and how to solve the issue.
- (4) After waiting through a long staging process, U2 found within the application “overview” that the application was “not running”. She was stuck not knowing if this was because the staging process was not done, if she did something wrong, or if there was a component malfunction (and how she could recover from it).
- (5) U2, U4, U5, U6 attempted to find information about errors and staging in “Files and Logs” but could not find relevant logs.

- (6) All users noticed that sometimes: (a) the WordPress site was operational but the app health indicator indicated the app had “stopped running”, or (b) the app health said “running” when the site was down.



Users found WordPress site is not working after Bluemix said the application is running



Screenshot when U5 found that the error is caused by the server

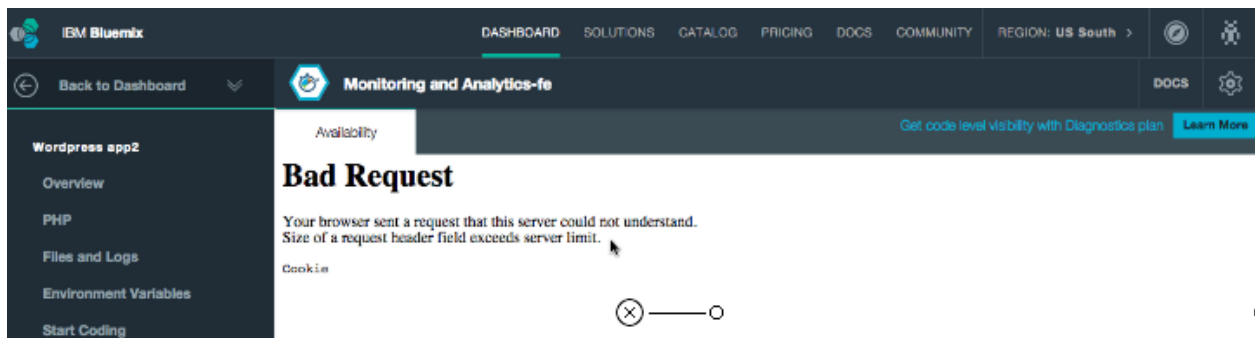
FINDINGS:

Finding 1: All users experience reliability issues throughout the process of creating a WordPress application and/or adding a service

Our heuristic evaluation and usability testing found repeated reliability issues with Bluemix. All developers who participated in our usability sessions encountered perceived system malfunctions, especially when creating a WordPress application and adding a service to their application.

Evidence: All Users

Severity Rating: 4



“Bad Request” when U6 attempted to access “Monitoring & Analytics” data


Finding 2: Lack of error messages to help users recognize, diagnose, and recover from errors

Along with encountering multiple instances of errors, all users were frustrated and perplexed due to the lack of informative and helpful messages that assist users in recognizing the system’s status, diagnose the causes of the malfunctions, and see if there is anything they can do to escape the error.

Evidence: All Users

Severity Rating: 4

Files and Logs

 BXNUI2034E: An error occurred when contacting Cloud Foundry to get a resource. Resource: instances. Cloud Foundry message: "Instance unavailable." See the Troubleshooting topics in the IBM Bluemix Documentation to check service status, review troubleshooting information, or for information about getting help.

Ambiguous Error Messages

Finding 3: Users do not get the feedback and information they expect

All users were irritated that some feedback mechanisms which they expected to help them understand the application's status, and help recover from perceived errors, either did not contain the expected information, were misleading, or were not intuitively placed. The only way users can confirm that the application they created is functioning is by constantly toggling between the 'live' WordPress site and Bluemix. Users have to view their application's activity logs, which does not give a clear confirmation when their site is functioning. There are also inconsistencies between what Bluemix portrays on the activity logs, notifications at the top navigation bar, within the "App Health", and the actual application's status.

Also, when encountering an error with the creation of an application or adding a service, some users tried to find information in "Files & Logs" yet they could not find the information they needed.

Evidence: All Users

Severity Rating: 4

Finding 4: Application "restaging" can be worrisome to some users

When adding a service to an application, Bluemix requires the application to be "restaged." Two users felt that "restaging" without first clearly explaining to users how it impacts the running application creates unnecessary worries. This is especially worrisome for larger scale projects when it is unsure what the consequences of restaging an application of significant size will do. The icon associated with the restaging message is also very misleading and portrays that this is a warning of some sort.

Evidence: U2, U4, U5, U6

Severity Rating: 3

 Restage Application

Your 'Wordpress Website' app needs to be restaged. Do you want to restage it now?

RESTAGE

CANCEL

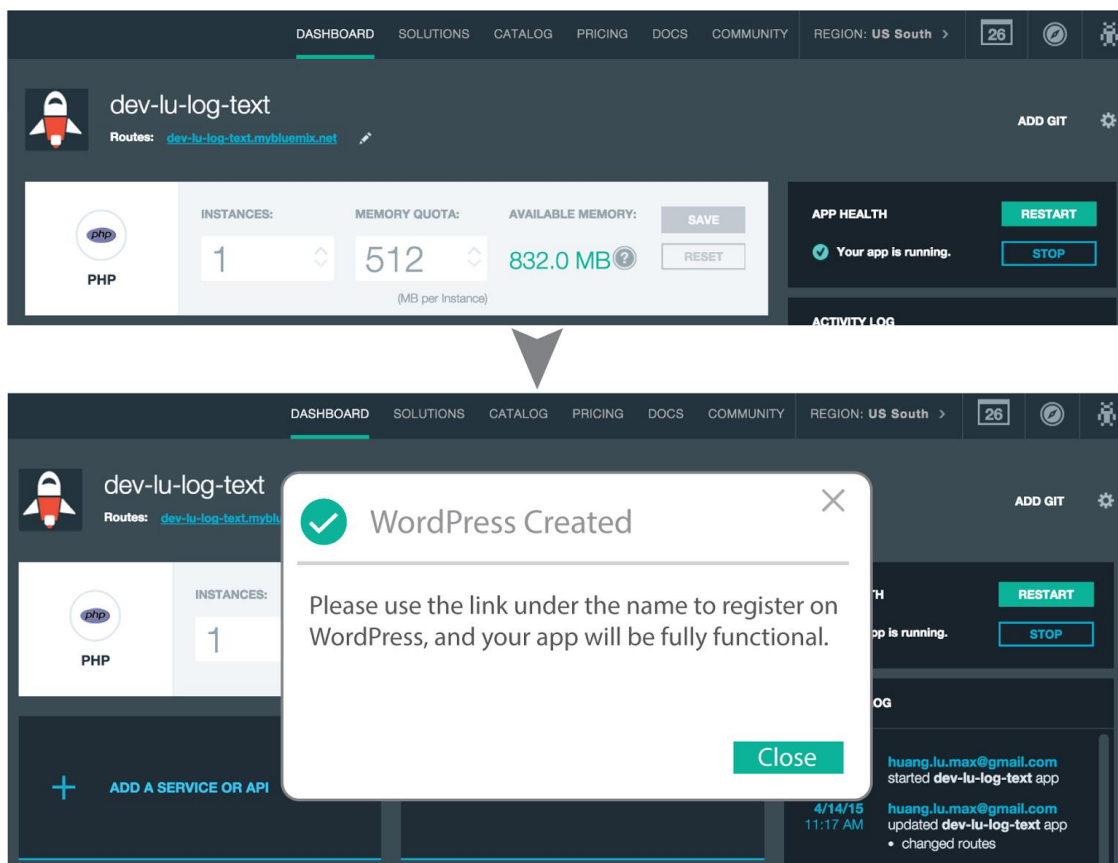
RECOMMENDATIONS:

Recommendation 1: Improve Bluemix's overall reliability

- (1) Bluemix can conduct iterative usability testing. Testing results should base a rigorous revamping of the reliability of the system, the components, and the currently existing features and services that users perceive to have reliability issues.
- (2) Features and services should only be launched after passing iterative reliability testing.
- (3) Bluemix can limit experimental and beta features and services to loyal existing IBM customers. They should be clearly notified regarding the new features or services concerning their experimental nature.

Recommendation 2: "Confirmation" modal after application creation or a major, disruptive change to the application

A confirmation modal should appear after an application has been successfully created, deleted, or when a service has been added to it. For instance, after application creation, this modal should clearly display a success message and it should be certain to users that their application will work when they open the link in a new browser.



Confirmation modal when Bluemix finished creating WordPress application

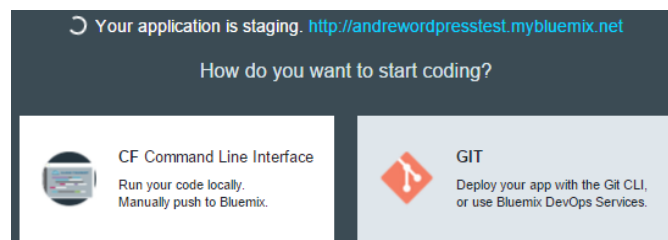
Recommendation 3: Informative logs on “Files and Logs” and activity log

Each status change and/or error for an application or a service should be followed by an informative log about the situation and how to handle it, both on the activity log and the “Files & Logs”, as users refer to these locations for more information. The log should contain information about how this error or status change would impact the application and the user’s productivity and what steps the user should take to alleviate the error.

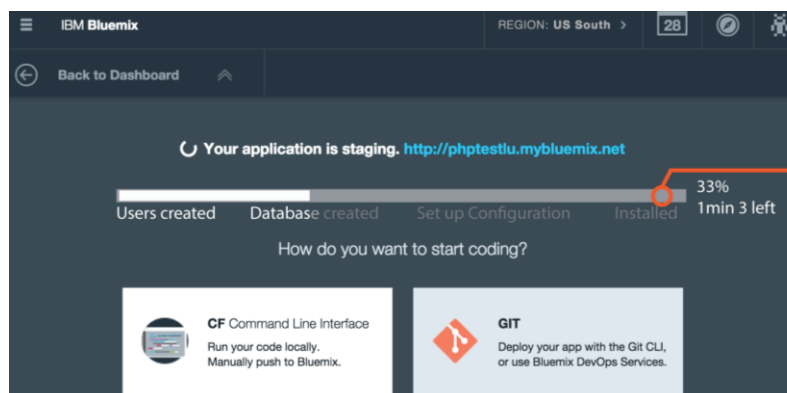
Developers use “Files & Logs” for locating bugs and error recovery. To make error identification and recovery quicker, we suggest a search bar for “Files & Logs” as the file structure and hierarchy can be quite complicated since there are multiple files with the same naming configurations.

Recommendation 4: Progress bar which displays the status of staging, restarting, application creation, or other processes with >10 seconds wait time

Developers are prone to be anxious about what goes wrong, and to be tempted to take unnecessary, or even potentially counter-productive actions. This is enhanced when they are exposed to a long wait without being given a clear indication about the actual situation. For processes with longer wait times, Bluemix should use a progress bar instead of a pulsating circular icon. The bar should progress based on the degree of process completion, and it should show user what task is worked on by the system.



“Pulsating Loading Circles” for processes with long-wait cause anxiety because users don’t know system status



Progress bar with % of task completion and cues about system status

Recommendation 5: Application and service statuses are updated in real-time and are consistent across the board

Notifications about an application’s or service’s status must be consistent between activity log, navigation bar notifications, files and logs, and error messages. They should be updated in real-time according to the actual condition and appearance of the application’s interface.

Process of Creating WordPress Application

Finding: Using “Browse Boilerplates” for creating WordPress applications, breaks the perceived ‘natural’ flow

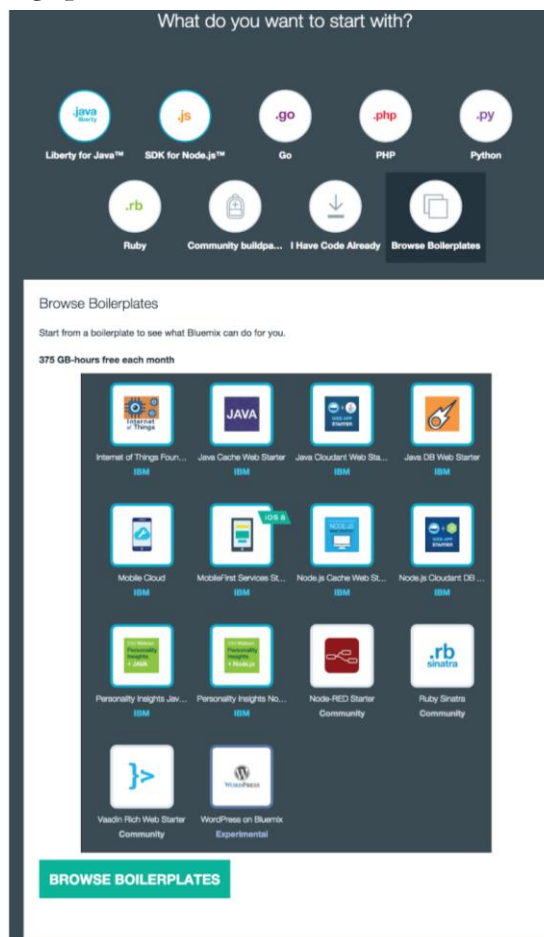
When creating an application using Bluemix’s assistance wizard, users naturally select “Create App” and are taken to the application starter page. When users are then asked to create a WordPress application, they are confused with the options presented and tend to gravitate toward the PHP starter (due to their understanding that WordPress is created with PHP). However, most eventually realize, after a couple trials, that this will not help them create a WordPress site according to the task. Eventually they find themselves in the Catalog page, but all users initially did not think of “Browse Boilerplate” as the correct path from the starter page.

Evidence: U2, U3, U5, U6

Severity Rating: 4

Recommendation: Display boilerplate selections for “Browse Boilerplates”

“Browse Boilerplates” should have a dropdown box that shows the various “Boilerplate” options displayed as icons (similar to the Catalog page). For a user looking for a WordPress boilerplate, they will easily be able to see that option along with other boilerplate options by selecting “Browse Boilerplates” from the Starter page.



When clicked, “Browse Boilerplates” displays the list of boilerplate options

Finding: Inconsistency in workflow of application

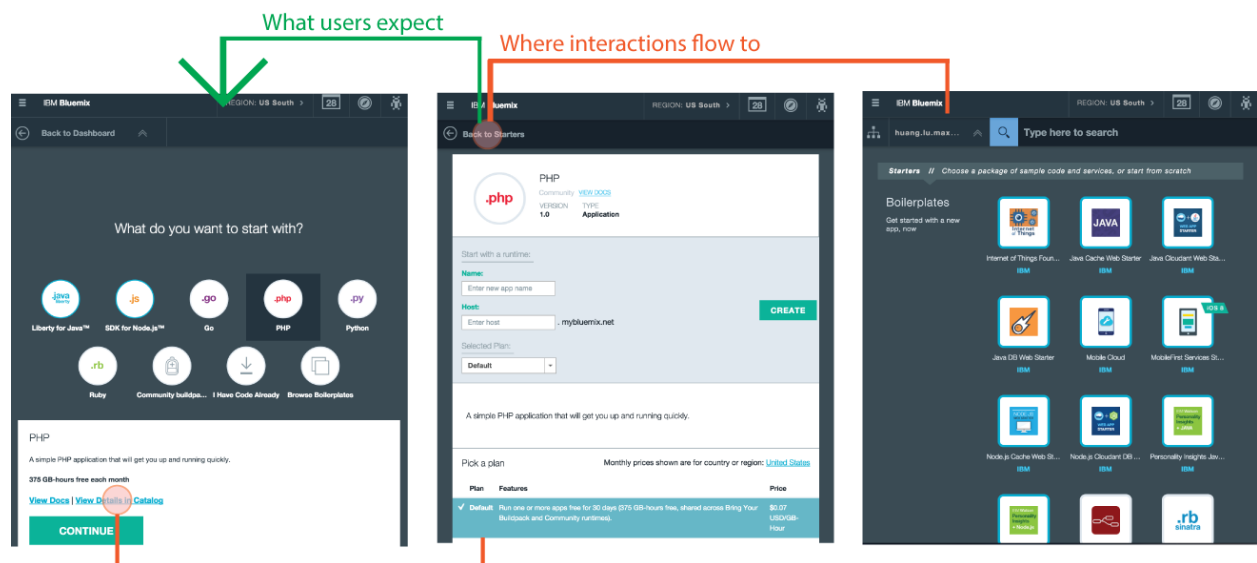
When a user selects PHP starter and wants to view the starter details on Catalog, they are accurately taken to the PHP detail page. However, when they want to go back, they are taken to the Catalog page instead of the starter options page. Two of our participants encountered this problem; they were confused to find themselves in a page they did not expect.

Evidence: U2, U6

Severity Rating: 4

Recommendation: Maintain Consistency in App Creation Workflow

Keeping the workflow consistent and up to the standards of users' expectations will improve the usability of Bluemix. For the above example, after a user views the PHP detail page, they should be able to go back to the starter options page just by selecting the "back" button. The browser's "back" button should be consistent with the path that the user has taken.



Interactions are not consistent to perceived flow

Finding: After ‘creating’ a WordPress application, users expect to be taken to their site, not “start coding”

After completing the WordPress application creation flow, users naturally expected to be taken to their site to register on WordPress and to confirm that their site is actually running. Users indicated that usually they would be able to add content immediately; they found being taken to “Start Coding” page slightly misleading. Additionally, on the “Start Coding” page, users couldn’t interact with the link to their site in any way since the system was still staging. Users would have wanted to arrive on the “Overview” page to see an obvious link to their site.

Evidence: U2, U5, U6

Severity Rating: 3

Recommendation: Direct users to “Overview” after application is created and make user’s site link more noticeable

As soon as users hit “create” on the WordPress Boilerplate page, they should be taken to the application overview page directly so that they know the exact state of their application. An alternate solution would be to make the link to their site more noticeable using more prominent labeling like: “**Your site:** www.yourexamplesite.com”.

Finding: Overwhelming “Catalog” page

Several users felt that the Dashboard would be a good place to house “preferred” or “recommended” Catalog items. The process of navigating through the overwhelming number of Catalog items every time was cumbersome.

Evidence: U2, U3, U4

Severity Rating: 3

Recommendation: “Recommended” Boilerplates & Services based on the preferences of the user and of similar users

Bluemix could collect data on the most suitable applications or added services for a particular user through an inquiry when the user signs up and by matching the user’s historical application or service selection with those who have similar development patterns. These Catalog items would be displayed in the user’s Dashboard to provide an immediate access to the user without having to navigate to the actual Catalog page. Currently, users have the option of marking an application as “Favorite.” However, it is unclear where these “Favorite” items are located and if a user can view all of them at once.

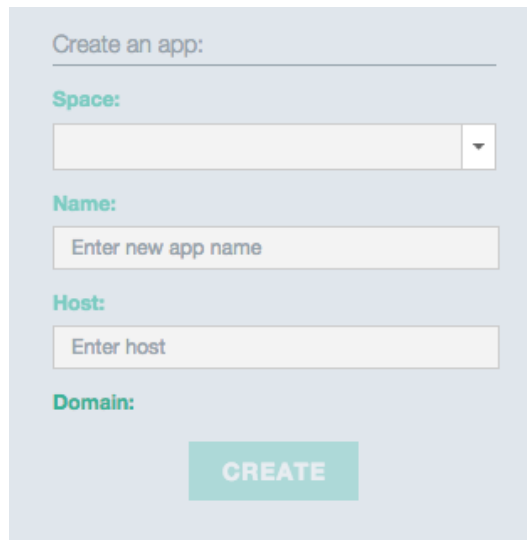
WordPress Boilerplate

Finding: Confusing terminology within WordPress boilerplate page

Much of the terminology within this page confused users (i.e. space, host, etc.). For instance, users are not aware what “space” is and therefore it could cause confusion throughout the process. Additionally, there were two “View Docs” buttons.

Evidence: U2, U5, U6

Severity Rating: 3



Users do not know what “Space” and “Host” mean for Bluemix context

Recommendation: Use more industry-standard language

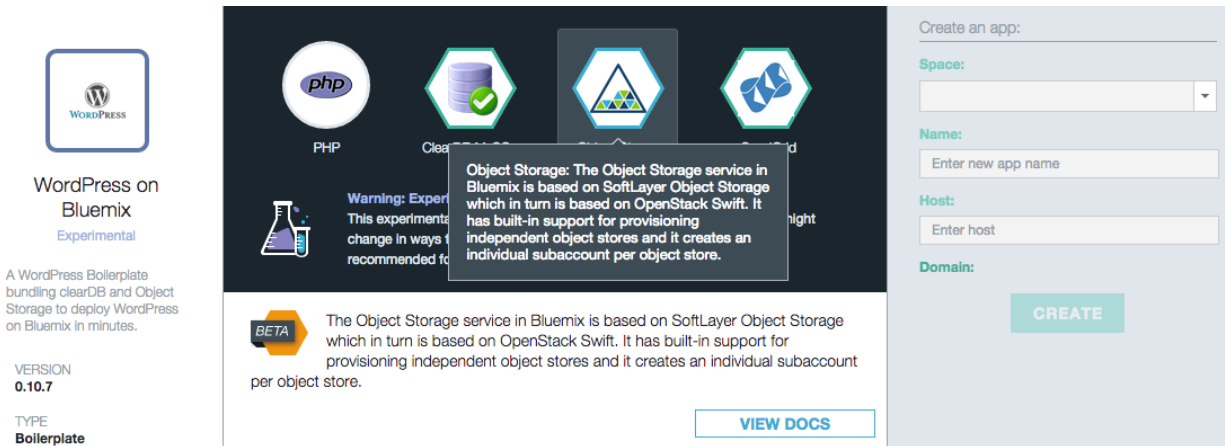
All Bluemix-specific terminology should have an information icon (e.g. “?”) next to it so that a user has the option to view the term’s definition. To clarify the occurrence of two “View Docs” buttons, each button should have a tooltip that clearly explains where it links to so that the user knows what to expect upon selection.

Finding: Poor display of service icons and details

The four services displayed that come with the WordPress application via Bluemix didn't appear "clickable" to our users. In addition, when the individual service icons are clicked, the pop up descriptions obscure the warning text which stated that the WordPress application was experimental and thus unstable at times. Oftentimes, the list of plans were also obscured and many of our participants missed the fact that pricing plans were viewable below.

Evidence: *All Users*

Severity Rating: 2



The relationship between service icons, "Plans" table, and service description is not apparent

Recommendation: Consider rearranging layout of pricing plans and warning messages.

Bluemix would simply need to move the "Warning" text down so that it is visible at all times. Also, moving up the Pricing Plans and placing them next to their respective service would make them more visible and users would easily correlate them with a particular service.

Process of Adding a Service through Dashboard & Catalog

Finding: Presenting Navigation to the Catalog from the Dashboard

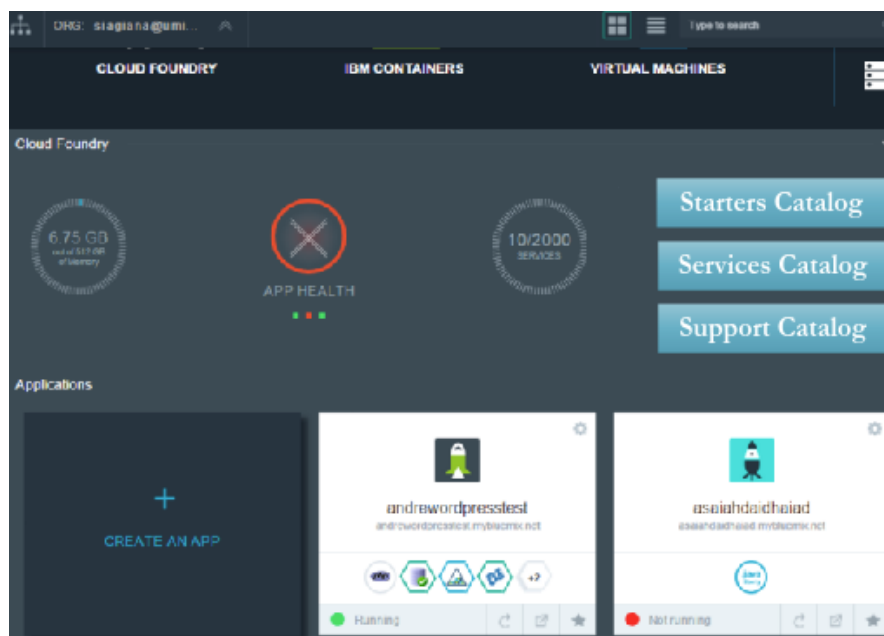
When initially asked to create an application or a service, our users found the term “Catalog” in the navigation bar confusing. Situating it in the navigation bar seemed unnatural to them in terms of the workflow of creating an application or adding a service.

Evidence: U3, U4, U5

Severity Rating: 4

Recommendation: Solidify the Dashboard as the “starting point”

Bluemix can add options so users can access the various sections of the Catalog page from the Dashboard. Users mentioned they wouldn’t have thought to navigate to the Catalog via the navigation bar; it is most intuitive to access it through the Dashboard based on the application creation workflow.



Dashboard Mockup for “Starter Catalog” and “Service Catalog” Buttons

Finding: Users cannot differentiate “Adding” and “Binding” a Service

Many of our users did not know the differences between “Adding a Service” and “Binding a Service.” These buttons were quite large, taking up majority of the user’s dashboard page. Since this page was a frequent landing (it served as a “home base” and was used for checking application health), users had to see these buttons quite often.

Evidence: U2, U3, U5, U6

Severity Rating: 3

Recommendation: Clarify the difference between adding and binding a service

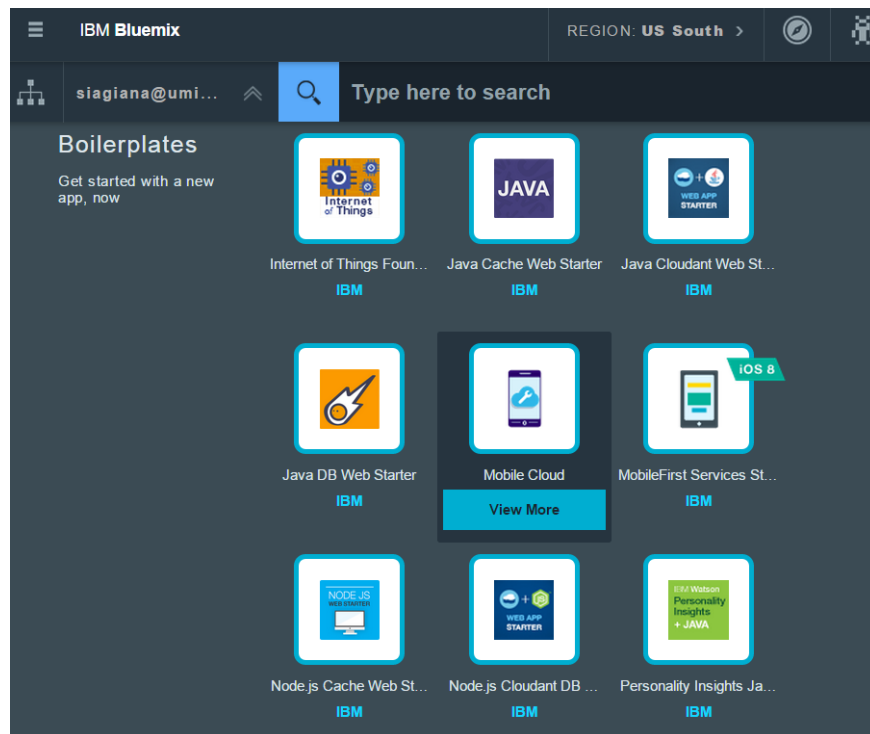
Bluemix can either change the name of “Binding a Service” or perhaps add a short blurb underneath each button explaining the difference between “Binding” and “Adding” services.

Finding: Aesthetic and navigation of catalog page is confusing

While many of our users enjoyed the overall visual aesthetic of the Catalog page, they also felt that it was confusing in terms of navigation and features, especially in terms of the “View More” option for each item. Firstly, hovering over each Catalog item displayed a pop-up modal which ended up covering the “View More” button. In addition, many of the names of the services were confusing, and due to an inconsistency in the left-hand navigation / filter system and headers displayed in the main content, it is difficult for users to navigate throughout this page.

Evidence: U2, U5, U6

Severity Rating: 3



Misleading “View More”

Recommendation: Allow more visual customizability on the Catalog Page

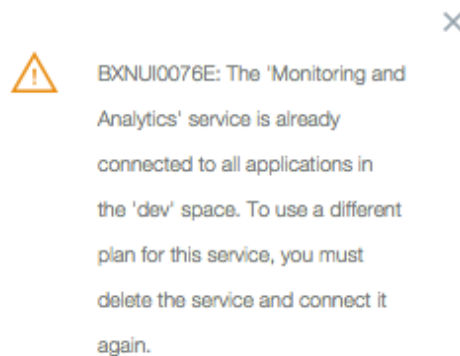
The “View More” button for each Catalog item can be deleted. Additionally, the left-hand navigation should match the headers for each section in the main content view. To elaborate, only the services are listed in the filters on the left. Both the Boilerplate and Runtimes headers (basically all Starter options) should also have filter capabilities in the left hand side as well. Finally, to complement the names of each Catalog item, a very brief, and one sentence description underneath each item name can help the user make quick decisions about which type of application or service they want to select.

Finding: Misleading “Warning” when adding a Service that exists in the space

Upon adding the “Monitoring and Analytics” service to their WordPress site, users encounter a warning saying that the service already exists in their ‘space’. Two of our users, U5 and U6, assumed that this meant the service was already installed since they did not know what “space” meant. They proceeded to their Application’s “Dashboard” page and found that the service was not there. This warning message was misleading and confused our users, increasing the time they took to complete the task. Eventually, however, all our users decided to just “add” the service, unsure of the outcome, hoping that the warning was meaningless.

Evidence: U2, U3, U5, U6

Severity Rating: 3



Misleading warning sign

Recommendation: Use more plain, descriptive language in error messages

One of the main issues with this warning message is that users don’t know what the term “space” means. When the message states that the service already exists in the user’s space, many users assume this means the application for which they are adding the service. The term can be clarified within the warning message itself. Or the warning message can clearly state that it is still OK (it won’t harm their application in anyway) for a user to add this service to their application. If there are any potential errors from adding the service, the warning message should state them clearly. In addition, Bluemix can clearly define the term “space” for its users. There can be a question mark icon (?) that when hovered over, displays the definition of a “space” in the context of Bluemix’s platform.

Dashboard

Finding: Users are not familiar with the term “Space” on Bluemix

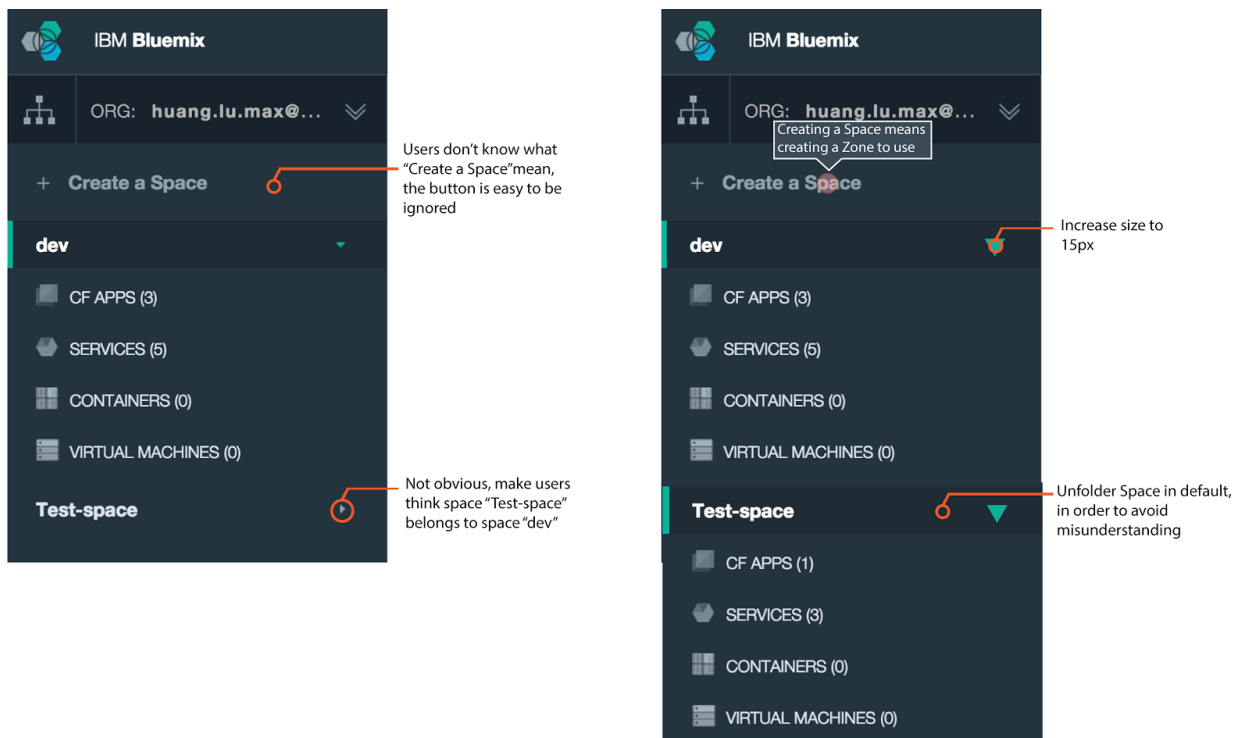
This is another issue with the term “space” and its components. For example, it isn’t very clear that there is even a dropdown option in the left hand navigation bar for each space. Additionally, it is difficult for a user to create a space if they aren’t sure what the term means.

Evidence: U3, U6

Severity Rating: 3

Recommendation: Explain what the term “space” means and increase the size of the dropdown arrow for each space

Once quick fix for this finding would be to increase the size of the downward arrow for each space listing as well as provide a definition via a tooltip explaining what a space is before the user adds it.



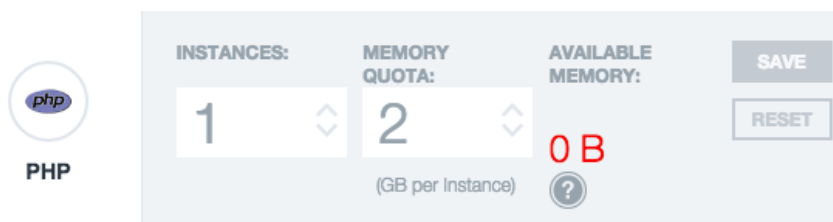
Application Dashboard

Finding: It is unclear which aspect of the application the memory allocation widget affects

The ‘Application Dashboard’ is an important page for users and there aren’t enough pointers and descriptors as well as other unclear aspects. Many of our users commented on the confusion of the memory allocation widget on the page. Because of the “PHP” icon, many users thought that the memory feature was just for PHP, which they found confusing since this was the page for the entire application. They also weren’t sure if they needed to invest money to acquire more memory or if they would be charged without their knowledge when they increased their application’s memory.

Evidence: U5, U6

Severity Rating: 3



Recommendation: Clarify Ambiguous Terminology and Widget Images

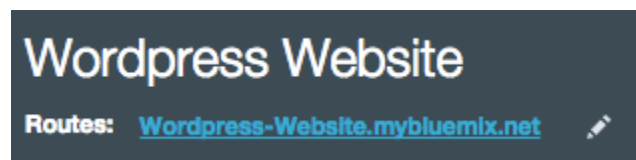
This page should contain tooltips and as many explanations as possible for developer or Bluemix-specific terminology. There is a lot of content on this page, and for first-time users, it can be confusing without explanations. To speak specifically to the memory widget, the PHP icon should perhaps be replaced with a WordPress icon so that the user is aware that the memory quota applies to the entire application.

Finding: “Routes” is not an intuitive path for viewing the WordPress website

From the dashboard page, many users wanted to access their website. After changing specific services associated with the application or increasing the application’s memory, they may want to view their site immediately to make sure that it is still functioning.

Evidence: U2

Severity Rating: 2



Recommendation: Change the Label “Routes” to “Your Website:”

Once quick fix for this finding would be to increase the size of the URL leading to the user’s generated site or even changing the label “Routes” to “Your Website.”

Documentation

Finding: Searching through the documentation is cumbersome

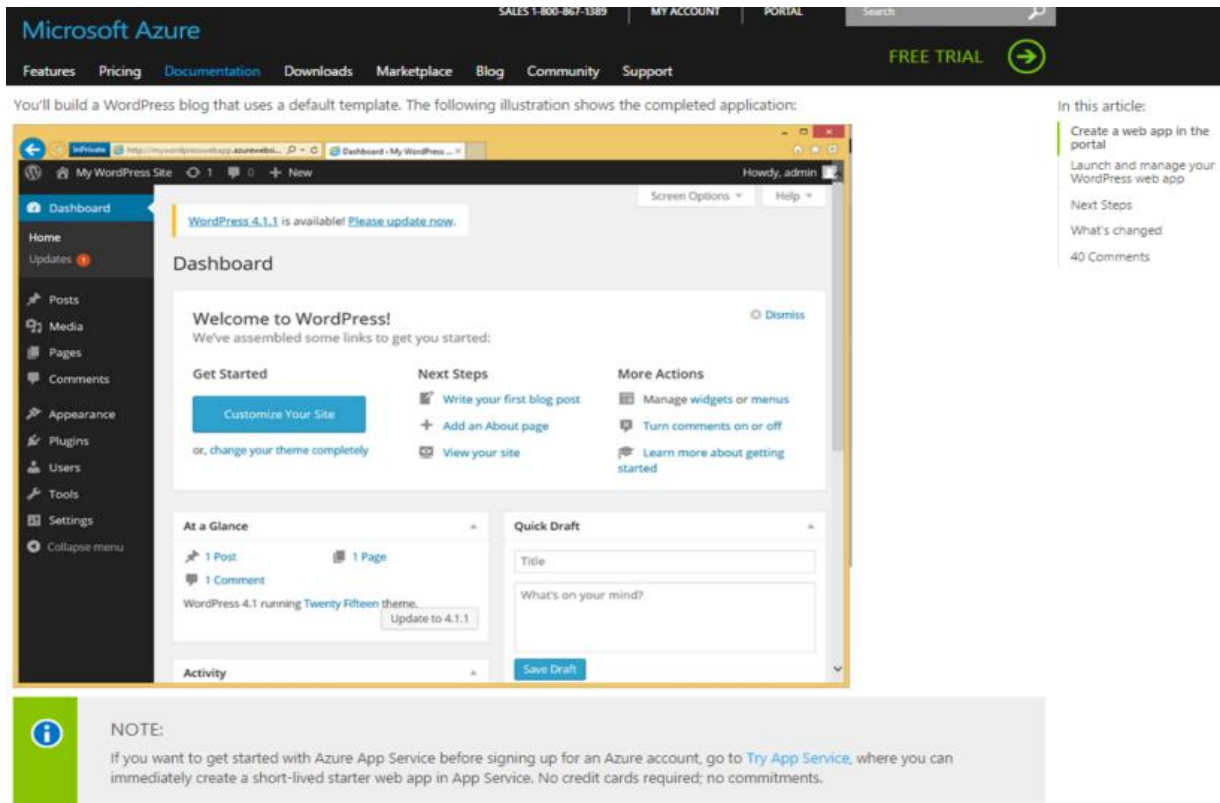
When asked to find more information about a specific topic (i.e. users were asked to find the maximum file size allowed when uploading a file to their WordPress site), users had to scroll throughout the entire documentation page. Even searching for information on the page (using the search bar or Ctrl+F) didn't retrieve the desired results. This even deterred one of our users from the WordPress documentation page entirely, and they began navigating to other documentation pages and even other parts of the Bluemix site.

Evidence: U2, U3, U5, U6

Severity Rating: 3

Recommendation: Install an in-page navigation system

For this particular finding, Bluemix can install an in-page navigation bar that is fixed to the side of the page. It highlights the major headings of the entire documentation page so that a user can navigate between different sections of the documentation page with a single click. This way they don't have to scroll through the entire page, likely losing track of the page's organization.



Finding: Some users need more advanced documentation beyond “Getting Started”

We noticed that the documentation Bluemix presents on WordPress simply has to do with getting started on “WordPress with Bluemix”.

***Evidence:** U6*

***Severity Rating:** 3*

Recommendation: Include WordPress Documentation on how to add Services and Maintain an Application

Many potential WordPress Bluemix users are new to development and while Bluemix has strong documentation on getting started with WordPress, we feel that this should be expanded to adding services and maintaining an application. From our post-questionnaire, our user stated that Bluemix’s strength lies in its ability to guide people who are just starting development. Its documentation can act as more of a tutorial, and each step or piece of information can be complemented with screen shots so that a user can easily visualize the necessary paths to take when creating an application.

Discussion

As our usability tests were a learning experience for us, we encountered challenges and setbacks that occurred before and during the tests.

Our limited participant sample size represents only a small segment of the developer population. All users are in their mid to late twenties and live in Southeast Michigan. In future usability tests, we hope to recruit a wider range of developers from different age groups, gender, ethnicity, work industries, etc. For example, our usability test could have benefitted from interviewing a manager who has had direct involvement in his or her company's software adoption process.

Some participants, such as U3, viewed the usability tasks as a laundry-list of chores that needed to be satisfied. This was in contrast to our remaining users, who demonstrated a more exploratory approach to Bluemix by navigating through many of its features on the basis of curiosity.

However, the presentation of certain Bluemix features (e.g. navigation menus and “create an app” button) varied across different Bluemix user accounts. One member on our team had a more upgraded Bluemix account in order to facilitate more robust usability testing and allow more memory for more apps. During our usability tests, we did not always use this account. This reflects another inconsistency in our usability testing.

One of our final questions in the post-study questionnaire asked users how they felt about our overall usability testing and to encourage any feedback. Some of their critique pointed to ambiguously-worded tasks. For example, Task IIIA asks the user to “Please navigate to the Documentation for creating a WordPress site without using the search bar at the top of the page.” More than one of our users misconstrued this task to mean navigating to the *WordPress* documentation for WordPress, as opposed to the Bluemix documentation for WordPress. This was complicated by the fact that the link to WordPress documentation for WordPress was much more apparent on the Bluemix app dashboard. However, our participants all verbalized that we had conducted a transparent and well-run usability test.

Conclusion

The findings from our usability tests helped us discover essential recommendations regarding the usability, interface, and workflow of IBM Bluemix. We interviewed one pilot participant as well as five other participants, all who fit the demographic of potential Bluemix users. Our eventual findings and recommendations were collected from task-based observations as well as pre and post questionnaires asking our users about their experience with the software. We decided on the following major recommendations for Bluemix:

- There are several reliability issues with the system in terms of application staging, creation, and restaging.
- The warnings presented are unclear and lack recovery options for the user.
- The process for creating an application lacks a natural workflow and users often face breakdowns.
- Users found it difficult to navigate through and find specific information in the 'Docs' page.
- While Bluemix is visually attractive overall, the information architecture does not adhere to several usability heuristics.

While we feel that these recommendations will enhance the overall user experience of Bluemix as they are based on months of various research methodologies, there are limitations of the research study that must be considered. There was a high learning curve for our team in terms of the software's adoption since none of us had strong development backgrounds. This, combined with the cultural discrepancies among each of the team members led to variability in how the sessions were conducted and how tasks were conveyed and perceived between participants.

References

[1] Chisnell, Dana, and Jeffrey Rubin. Handbook of Usability Testing: How to Plan, Design, and Conduct Effective Tests. Indianapolis: Wiley, 2008. Print.

Appendices

Appendix A: Preamble

Hi, _____. Thank you for coming in today. My name is _____ and my teammate's name is _____. We're graduate students here at the School of Information and we're taking a class on how to conduct needs assessment and usability evaluation.

The session is scheduled for about 90 minutes, though we might not take that long and we will definitely not keep you past 2 hours. Please let us know if you'd like a break at any time or if you decline to continue the remainder of the session. Your participation today is totally voluntary. For your time today, we'll be offering \$150 compensation from IBM in the form of a check sent directly to you. So before we start, do you need to use the restroom or anything?

[PAUSE]

As part of the process, I'm going to ask you to do a few tasks using only Bluemix. The purpose of doing this is to understand how we can make Bluemix easier to use and suggest these changes to IBM.

We may film parts of the session. Please let us know if do not agree to this. The data from your session is used only to evaluate the session and will only be accessible to our professor and classmates. Please take a few moments to read this consent form and let me know if you have any questions.

[PAUSE]

As you're working, please think out loud and describe what you're looking for, and mention anything that is confusing or surprising. _____ will take notes while you're working. Please read each task aloud before beginning the task.

I'd like to stress that we're testing the product, and not your abilities. If you find parts of the product difficult to use or understand, so might other people, and it will be our job to make sure we report the appropriate changes to improve Bluemix.

For the tasks, I will give you one at a time. Go as far as you would if you were alone. When you're ready to stop, please say "I've finished" or "I would stop here." Again, please remember to think aloud.

Ok, are you ready to begin?

We are going to ask you to fill out this pre-test questionnaire just to get to know a little more about you.

[HAND THEM A PRINTED-OUT VERSION OF THE PRE-TEST QUESTIONNAIRE].

Appendix B: Pre-Questionnaire

Participant #: _____

Instructions: Please look at the page on the screen, but don't click on it.

1. What is your age? _____
2. What is your education level? Field of study? _____
3. What is your occupation? _____
4. Have you used IBM Bluemix before? Y | N | Not Sure

If "Y", about how many times in the past month? _____

If "N", what do you think Bluemix's features will enable you to accomplish?

6. Do you think Bluemix is similar to any other services or websites? If so, which?

7. How often do you do the following activities?

	>1 times per day	Daily	Weekly	Monthly	Don't know	Never
Platform-as-a-service (PaaS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WordPress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IBM products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
App development on a cloud platform	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Searching through online documentation and guides	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix C: Tasks

1. Here is the scenario: *Imagine you are a web developer at a mid-sized company. Your task is to create a WordPress site for a client using the Bluemix software that you see in front of you.*

A. Please create a WordPress web application from your Dashboard.
[IF THEY GET STUCK AT THE STARTER PAGE, PROCEED TO B ... If not, SKIP task B.]
B. Using a WordPress “Boilerplate,” continue to create your application.
C. Using the WordPress Boilerplate page, please evaluate the various pricing plans for the SendGrid Email Delivery Service and tell me how much the Platinum plan costs.
<input type="checkbox"/> Now, please open and view your WordPress site using the Bluemix-generated URL.
[Walk them through the WordPress setup process].
E. Confirm that you can show and share your WordPress site to your co-workers.

II. Here is the next scenario: *Your co-worker from the IT department has requested the ability to collect data about how smoothly your WordPress site is running.*

A. From the Dashboard, please add a service to your WordPress application. Find a service that monitors and analyzes the performance of your application and add it to your WordPress application.
B. Later in the day, you realize your app is running slowly and needs more memory to continue running smoothly. Please use Bluemix to increase your application’s allocated memory to 6 GB.
[If the application is still “staging,” ask what he/she thinks “staging” means].

III. Here is the next scenario: *Your co-worker is testing out the WordPress site you have just created but she is having trouble uploading a file to it.*

A. Please navigate to the Bluemix Documentation for WordPress <i>without</i> using the search bar at the top of the page.
B. You want to find out what the maximum size of a file you can upload to your WordPress application. Please find out what the maximum size is.
[Questions to ask] What do you think of the layout of the documentation? What strikes you first? Do the titles and headings make sense to you?

Ok, you've finished all your tasks!

Now, we are going to debrief. We're going to ask you to fill out this post-test questionnaire so that we can discuss any lingering issues you have regarding Bluemix.

[HAND THEM A PRINTED-OUT VERSION OF THE POST- TEST QUESTIONNAIRE].

[DISCUSS ANY PATTERNS OR FINDINGS FROM THEIR POST-TEST QUESTIONNAIRE].

Ok, congratulations, we're done! What did you think of this experience overall? Do you have any suggestions for how we can improve our usability testing?

[RECORD ANY AND ALL SUGGESTIONS FROM USER].

Regarding the compensation for your time, our contact person at Bluemix, Kevin Hicks, will reach out to you soon. If you have any problems with him, you can just email us back.

Again, thank you for your time!

[WALK THEM OUT OF THE BUILDING].

Appendix D: Post-Questionnaire

User Interface

“For this section of the Usability Study, we are going to look at four screens a user would frequently interact with when using the Bluemix application. Then, I’m going to ask you questions on the aesthetic, navigability, and general experiences of each of the pages. Please answer honestly and feel free to make references back to your interactions during the task-based section of the study. You are welcome to interact with the screens in any way you would like as well.”

***NOTE TO MODERATOR: Do not ask questions if user has answered them before (try and cater them to points the user has not touched upon).*

1. WordPress Boilerplate

What do you think were the most pressing issues about this page?

When you first approached your page, what were some of your initial thoughts? What did you think the purpose of this page was?

What are some words you would use to describe the look/feel of this page?

What are your thoughts on the navigability of this page?

How do you feel about the page’s terminology?

2. Catalog

What do you think were the most pressing issues about this page?

When you first approached your page, what were some of your initial thoughts? What did you think the purpose of this page was?

What are some words you would use to describe the look/feel of this page?

What are your thoughts on the navigability of this page?

How do you feel about the page’s terminology?

3. Application Dashboard

What do you think were the most pressing issues about this page?

When you first approached your page, what were some of your initial thoughts? What did you think the purpose of this page was?

What are some words you would use to describe the look/feel of this page?

What are your thoughts on the navigability of this page?

How do you feel about the page’s terminology?

4. User Dashboard

What do you think were the most pressing issues about this page?

When you first approached your page, what were some of your initial thoughts? What did you think the purpose of this page was?

What are some words you would use to describe the look/feel of this page?

What are your thoughts on the navigability of this page?

How do you feel about the page's terminology?

Post-Questionnaire Debrief

1. Overall, how do you describe your experience using Bluemix?
2. Do you find any task particularly demanding or confusing? If yes, what parts are particularly confusing? Why?
3. Does Bluemix seem useful to developers for creating a web application? Why or why not?
4. Does Bluemix seem useful for creating a WordPress site? Why or why not?
5. What are your favorite features of Bluemix platform?
6. If any, what features of Bluemix were vague or confusing to you?
7. Would you recommend others to use Bluemix for developing web applications?
8. Would you recommend others to use Bluemix for creating WordPress sites?
9. Do you think Bluemix can add significant value to your company? Why or why not?
10. What changes or additions would you suggest to improve your experience using Bluemix as a platform for developing web applications?
11. Do you have any other comments or suggestions?

Appendix E: Blank Logging Form

User [##]			
Task 1	Time (H:MM)	Success (Y/N)	Notes
Please create a WordPress web application from your Dashboard.			
Using the WordPress Boilerplate page, please evaluate the various pricing plans for the SendGrid Email Delivery Service and tell me how much the Platinum plan costs.			
Now, please open and view your WordPress site using the Bluemix-generated URL.			
Confirm that you can show and share your WordPress site to your co-workers.			
Task 2			
From the Dashboard, please add a service to your WordPress application. Find a service that monitors and analyzes the performance of your application and add it to your WordPress application.			
Later in the day, you realize your app is running slowly and needs more memory to continue running smoothly. Please use Bluemix to increase your application's allocated memory to 6 GB.			
Task 3			
Please navigate to the Bluemix Documentation for WordPress <i>without</i> using the search bar at the top of the page.			
You want to find out what the maximum size of a file you can upload to your WordPress application. Please find out what the maximum size is.			

Appendix F: Logging Notes & Task Performance Data

**many of the recorded times per task are affected by the strength of Internet connection at the time of task (impacts application “staging” and “restarting”)*

***all calculated averages exclude data collected from our pilot test*

Part 1: *Imagine you are a web developer at a mid-sized company. Your task is to create a WordPress site for a client using the Bluemix software that you see in front of you.*

Task: “Please create a WordPress web application from your Dashboard.”

Success Criterion: User must locate the WordPress Boilerplate in Bluemix and then create an application. They should also briefly interface with WordPress.com during the application creation process.

Average Completion Time: 0:09.26

Success Rate: 4/5

	U01**	U02	U03	U04	U05	U06
Time	0:10	0:10	0:09.3	0:03	0:08	0:16
Success						

Task: “Using the WordPress Boilerplate page, please evaluate the various pricing plans for the SendGrid Email Delivery Service and tell me how much the Platinum plan costs.”

Success Criterion: The user should correctly navigate to this page (most likely by selecting the “WordPress” Boilerplate from the Catalog page. Once there, they should click the “SendGrid” service and then scroll down to that service’s platinum plan where they can find a price of \$399.95 per month.

Average Completion Time: 0:7.44

Success Rate: 5/5

	U01**	U02	U03	U04	U05	U06
Time	0:07	0:08	0:07.2	0:06	0:10	0:06
Success						

Task: “Now, please open and view your WordPress site using the Bluemix-generated URL.”

Success Criterion: From the Application Dashboard, a user should click the link after the label “Route:” which will open their WordPress application in another tab. An alternate solution would be to complete the application creation process via WordPress and then view the site from the WordPress Admin page.

Average Completion Time: 0:01

Success Rate: 5/5

	U01**	U02	U03	U04	U05	U06
Time	0:01	0:01	0:01.1	0:01	0:01	0:01
Success						

Task: “Confirm that you can show and share your WordPress site to your co-workers.”

Success Criterion: User copies the link to their website, opens an Incognito Window, and then pastes it in the address bar. They should then be able to view their site.

Average Completion Time: 0:01

Success Rate: 5/5

	U01**	U02	U03	U04	U05	U06
Time	0:01	0:01	0:01.1	0:01	0:01	0:01
Success						

Part 2: *Your co-worker from the IT department has requested the ability to collect data about how smoothly your WordPress site is running.*

Task: “From the Dashboard, please add a service to your WordPress application. Find a service that monitors and analyzes the performance of your application and add it to your WordPress application.”

Success Criterion: After clicking “Add a Service” from the Application Dashboard, a user should end up at the Catalog page. From there they should successfully locate the service called “Monitoring and Analytics” and be able to add it to their application.

Average Completion Time: 0:09.52

Success Rate: 4/5

	U01**	U02	U03	U04	U05	U06
Time	0:10	0:12	0:07.6	0:03	0:06	0:19
Success						

Task: “Later in the day, you realize your app is running slowly and needs more memory to continue running smoothly. Please use Bluemix to increase your application’s allocated memory to 6 GB.”

Success Criterion: From the Application dashboard, the user should interface with the PHP memory widget where they can change the memory quota to 6GB.

Average Completion Time: 0:03.08

Success Rate: 5/5

	U01**	U02	U03	U04	U05	U06
Time	0:09	0:01	0:05.4	0:01	0:01	0:07
Success						

Part 3: Your co-worker is testing out the WordPress site you have just created but she is having trouble uploading a file to it.

Task: “Please navigate to the Bluemix Documentation for WordPress *without* using the search bar at the top of the page.”

Success Criterion: Without using the Bluemix search bar, the user should arrive on a page within “Docs” called “Getting Started with WordPress on Bluemix.”

Average Completion Time: 0:01.86

Success Rate: 5/5

	U01**	U02	U03	U04	U05	U06
Time	0:07	0:03	0:01.3	0:01	0:01	0:03
Success						

Task: “You want to find out what the maximum size of a file you can upload to your WordPress application. Please find out what the maximum disk quota is.”

Success Criterion: The user should navigate to the end of WordPress Documentation page where they can find the maximum disk quota of 2GB per application.

Average Completion Time: 0:04.66

Success Rate: 4/5

	U01**	U02	U03	U04	U05	U06
Time	0:06	0:02	0:02.3	0:01	0:01	0:17
Success						

Appendix G: Pre-Questionnaire Responses

Pre-study questionnaire

Instructions: Please look at the page on the screen, but don't click on it.

1. What is your age?

22 24 24 26 25 23

2. What is your education level? Field of study?

Masters in Human-Computer Interaction,

Bachelors Communication Studies,

Some college (Music/gen-eds); self-taught Web Development

M.S. Information Science,

BS Computer Science

BS Business Administration; Information Systems Management

3. What is your occupation?

Student/web developer

Web developer

Web Developer/Designer

Student/web developer

Software Engineer

Corporate Operations Support

4. Have you used IBM Bluemix before?

No No No No No No

5. If "Y", about how many times in the past month? If "N", what do you think Bluemix's features will enable you to accomplish?

Similar to AWS? One stop shop for deploying/managing cloud apps

It may be a framework to help build WordPress plugins.

Development in the cloud

Create and launch web apps/mobile apps.

Server Deployment

No idea - never heard of Bluemix

6. Do you think Bluemix is similar to any other services or websites? If so, which?

AWS to an extent

Something in AWS that I'm blanking on

There is one that comes to mind, but I cannot remember the name.

Microsoft Azure, AWS, Google Cloud

Docker, Virtualbox, VMware, Chef

Unsure

7. How often do you do the following activities?

	>1 times per day	Daily	Weekly	Monthly	Don't know	Never
Platform-as-a-service (PaaS)	<input type="checkbox"/> ✓	<input type="checkbox"/> ✓✓	<input type="checkbox"/> ✓✓✓	<input type="checkbox"/>	<input type="checkbox"/> ✓	<input type="checkbox"/>
WordPress	<input type="checkbox"/> ✓✓✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓✓✓	<input type="checkbox"/> ✓✓✓	<input type="checkbox"/>
IBM products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓✓✓	<input type="checkbox"/> ✓✓✓✓✓
App development on a cloud platform	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓✓✓✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ✓✓✓✓
Searching through online documentation and guides	<input type="checkbox"/> ✓✓✓✓	<input type="checkbox"/> ✓✓✓✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix H: Post-Questionnaire Responses

1. Overall, how do you describe your experience using Bluemix?
2. Do you find any task particularly demanding or confusing? If yes, what parts are particularly confusing? Why?
3. Does Bluemix seem useful to developers for creating a web application? Why or why not?
4. Does Bluemix seem useful for creating a WordPress site? Why or why not?
5. What are your favorite features of Bluemix platform?
6. If any, what features of Bluemix were vague or confusing to you?
7. Would you recommend others to use Bluemix for developing web applications?
8. Would you recommend others to use Bluemix for creating WordPress sites?
9. Do you think Bluemix can add significant value to your company? Why or why not?
10. What changes or additions would you suggest to improve your experience using Bluemix as a platform for developing web applications?
11. Do you have any other comments or suggestions?

Overall, how do you describe your experience using Bluemix?

U2: likes it, could definitely play with it in the future when wants try different frameworks, but wish it could be faster

U3: Small overlaps, small design things. Layout and information is clear, Pricing plans are easy to comprehend. What I don't realize before is that you can customize each plan. Documentation about boilerplates and WordPress. Very clear about each one.

U4: -

U5: not much comparison, never used something similar. Seems fine. Not like he has to set up amazon service and load it there.

U6: learning curve | bothering about where things correspond to | where are things running to | terminology issues | Google Compute Engine → clearly; can have a lot of control and resources and instances are clear. | It's cool to attach but its annoying have to reboot all the time | wrong clicks could negatively affect the entire production

Do you find any task particularly demanding or confusing? If yes, what parts are particularly confusing? Why?

U2: -

U3: The first task. The documentation doesn't point me the right way. Also it seems the search [on Docs page] doesn't work. That frustrated me; my anticipation was to search for "WordPress" and then get the info I want. Here, PHP, for developers, I incline to say use PHP, will Drupal (?) be there? Personally, "boilerplates" make sense to me, but I didn't think boilerplate will be associated with WordPress.

U4: -

U5: Confused about the pricing task the whole time...but not much friction for services that try and integrate things (however, wouldn't say that it is a joyful or delightful experience). Also confused about the SendGrid service, why does it link to an external site?

U6: Files and size limit

Does Bluemix seem useful to developers for creating a web application? Why or why not?

U2: access to all services and stuff → can be helpful and can show developers things they never see before, opportunity to try things and play around

U3: -

U4: -

U5: Bluemix would be useful for web dev → having something that can just click click click → that's nice. Also if can do command line on Bluemix would be nice. Don't know if a freelancer would use it for clients, it can be a bit wonky so not very confident about it

U6: simplicity → can be helpful | two sided coin → simplicity vs change | learning curve

Bluemix is not ready for large scale production → makes him super nervous (smaller scale is fine) he wants control over unreliable things → hates to have to restart all the time | makes him nervous if he wants to spin up another instance → he does not know what will happen | no granularity of control to do it.

Does Bluemix seem useful for creating a WordPress site? Why or why not?

U2: It is good for WordPress, but there are easier ways to create a WordPress site, probably wouldn't use Bluemix

U3: Issues: don't give me completed screen in one step (in reference to the WordPress page before log in). It's easy to see how to add another layer to it. e.g. analytics.

U4: -

U5: why do we need it... not sure if lots of files but don't even see how to add files on Bluemix

U6: can be helpful for those without technical knowhow (simplicity can be helpful for a lot flow)

What are your favorite features of Bluemix platform?

U2: likes how it brings a lot of different things together and user can try different things, likes one click installation

U3: -

U4: -

U5: push via git seems nice → for deployment and plugins → useful if want to add things easily

U6: easy can change memory and stuff, and add services easily, like SendGrid even third party → standardized method of adding it in. If he has custom application and wants to integrate would be helpful.

If any, what features of Bluemix were vague or confusing to you?

U2: doesn't remember... Command line tools → she likes command line tools better, good that they have that

U3: -

U4: Slowness. In regards to restaging or restarting apps and adding services, etc. Cloud Foundry, I don't know what that is.

U5: Watson could be explained more intuitively to those who never used them. Bizzare, no idea what they are.

U6: -

Would you recommend others to use Bluemix for developing web applications?

U2: Yes. Interesting thing to demo at brownbag meeting (had used Heroku before so the platform seemed familiar), however wouldn't recommend it for all types of users (only if you're playing around and trying new things)

U3: -

U4: Those who are not good at developing applications, because it's [Bluemix] is easy

U5: Yea → friends who want to put up a website who don't really know how. But I wouldn't recommend it yet → doesn't feel polished. If big community of people using. Bandwagon is nice because people already. If running for a business don't want be the first running to a problem in the platform

U6: Based on the limited experience I have [of interacting with Bluemix thus far], if you like to create various types of apps you will be interested. There's various CMS and boilerplates. If you are managing various types of apps, it will be good for you. But it's better for my friends to try on their own.

Would you recommend others to use Bluemix for creating WordPress sites?

U2: No

U3: -

U4: Yes.

U5: depends on what → how crazy of WordPress want to be done → if complex site yes. But not just a simple one. If want to add new features.

U6: -

Do you think Bluemix can add significant value to your company? Why or why not?

U2: No, not really, only for trying new technology and playing around

U3: The only reason why we wouldn't use Bluemix at my current company is that it's more than we need...We use WordPress hosting providers now.

U4: I don't know, I would probably use AWS because it's more robust.

U5: Kill the filter button (in Catalog Page), easier to figure out pricing and what they are paying for, maybe though because of using it only once then feels harder to use

U6: -

-What changes or additions would you suggest to improve your experience using Bluemix as a platform for developing web applications?

U2: It should be faster and more reliable

U3: It's clean, modern, easy to use, though I didn't test on my mobile phone to see if it's responsive, but I would say fairly easy to use, just couple of thing like documentation and search don't work well.

U4: -

U5: Spoke a lot to the main navigation bar: why is the email on the right, organization on the left. Why not just next to each other...compass → what kinds of notifications that give? Pricing is confusing, why can't tell the same spot with catalog.

Solutions → would expect to be marketing page → not expected to be getting anything done.

Recall finding view docs on the solutions → SendGrid and WordPress

CATALOG DOESN'T SOUND LIKE A STARTING POINT (and should be moved to the left instead of solutions) . Solutions sounds more like a starting point.

U6: The menu and functions → going in between them more than realized | can cause users to get lost | am i not on Bluemix site still? | back button safety net but not working | navigation is a little rough to get used to

-Do you have any other comments or suggestions?

U2: Not really. Would love to see command line, but usability of web app don't need to do it.

U3: -

U4: -

U5: have used AWS before

U6: -

Appendix I: Raw User Data

User 02

I. Here is the scenario: *Imagine you are a web developer at a mid-sized company that is in a trial period to test out the Bluemix software, as you can see in front of you.*

A. Please create a WordPress web application from your Dashboard.

[IF THEY GET STUCK AT THE STARTER PAGE, PROCEED TO **B**... If not, SKIP task B.]

She went to PHP “maybe there is no WordPress thing”

She went up and down

Went to Catalog “Offering”

Then type search “WordPress” “there we go “WordPress” on Bluemix

Create an App thing on the side

went straight, error, forgot to fill out or choose the space and host

created, application is starting

“I feel I should delete the random PHP one I made” “delete app”

“Staging the WordPress App”

Seems like I have created it

Wait till finish staging to verify

went up down and then click the link on top of the dashboard for application, the page is not ready yet

I wish that there was more indication of what it is doing right now, it looks like it is just stuck.

What would she want to? “Creating database, creating users, users added to database, setting up config file, installing WordPress” → steps of loading explained

Creating WordPress → wished could be on the dashboard (I guess people should be able to share their interests when signing up so show up directly on Dashboard)

→ missed what she said

She doesnt know if its creating a whole WordPress installation, or or just setting up the plugin or something.

She viewed it. then go to link for her page. She clicked, then loaded, configuration stuff. Filled out the configuration for WordPress....

Install WordPress

Blank screen → loading or there is an error? don't know

Inspect element to see what's missing (because the WordPress isn't working)

...experiencing WordPress bug...

App is running

Logs → see if there is an error, would be nice to see staging log

WordPress log → installed it already, done.

1. Using a WordPress "Boilerplate," continue to create your application. →

[ONCE IN THE CATALOG PAGE, ASK THEM HOW THEY FEEL ABOUT VARIOUS PARTS OF PAGE]

1. Please evaluate the various pricing plans for the SendGrid Email Delivery Service and tell me how much the Platinum plan costs using the application you just created → wording issue

She went to pricing tab but not sure

Then she went to application and check the estimate pricing for the app

“”Next time ask user to evaluate each page when doing the tasks” instead of just breezing through the pages

Estimate the price of WordPress app.

Pricing tab → web and application → “environment”? “add on something” “solutions”?

Solutions “seems to be for marketing”

Catalog “type SendGrid” → design of the website, first saw “Choose a package” thought it was not a search bar.

She went to check SendGrid from Catalog, check platinum → \$3.99/mo

“You remember that your boss has told you that your company is simply trying out Bluemix and does not want to be charged. Please show us how you would avoid being charged and then finish creating your application.” → Ambiguous

WordPress boilerplate

Right column → saw cost somewhere

Then saw the “pick a plan” → hesitant

Didn't think about checking SendGrid

Finished → 30 days trial!

1. Now, please open and view your WordPress site using the Bluemix-generated URL.
Dashboard → application (tried sidebar first usually) -- roots → link → WordPress installation

[Walk them through the WordPress setup process].

1. Confirm that you can show and share your WordPress site to your co-workers.
 - a. go to the link and show to their friends

1. Here is the next scenario: *Your co-worker from the IT department has requested the ability to collect data about how smoothly your WordPress site is running.*

A. From the Dashboard, please add a service to your WordPress application. Find a service that monitors and analyzes the performance of your application and add it to your WordPress application.

Analytics software, try to find where that is

Go back to dashboard

go back to app

add a service or API

remember her old search (the system did)

search analytics

there are several, gonna read about

“DevOps” → performance and availability → seems to be good

“add to application” → instances already exist in this space

Don't know why it's telling her it already exists in the space???

saw the logs

tried again through dashboard app -> add a service → analytics → devops → warning about having it in the space

tried to install it still, create → restage? → yes do it now → “She wishes she has some kind of progress bar, telling her what she was doing”

“Staging” → it’s clear → staging area → used for development → makes sense

“Error messages” → it was ok, noticeable → red | it was a little bit weird that it was “OK” and could still go forward and then create the service or add it without having to delete it first. So what is the error message for??

She used AWS before.

AWS is more hands-on, this is more everything is set up for you.

She is in analytics, (Dashboard App sort of) → trying to check the status of the analytics service → still waiting, again no indication what is going on

Would expect an intro page when the monitoring analysis is done installed (feedback)

Getting same error → server close connection

Settings (top right) → view click start (did I do any getting started I didnt do???) There is nothing → “I don’t know”

The page for monitoring analytics isn’t loading, there is an error Icon. Viewing the docs for monitoring analytics thing → scrolled down to find help → couldn’t find → scrolling down and then have to go to top (frustrated, frustrated) → long docs page and couldn’t find what she wants. Have to use Control+F → “REALLY” she said → trying to check if she did everything correctly, “what happened? I don’t want to get disconnected”. Docs is long. “If there is no response from the server it means there is no ping”, she would expect “there is a notification that there is no availability instead of just not work”

The service dashboard says “please wait” still. In real world would google, wait it worked showed the data she wanted! “I am done”

1. Later in the day, you realize your app is running slowly and needs more memory to continue running smoothly. Please use Bluemix to increase your application’s allocated memory to 6 GB.

“She wished she could click at the option at the top “_WordPress” app title to go back but have to go to “Overview” instead

She saw the memory quota → increased it to 6GB, increased it, then saved it. “It is restarting I believe”.

In the activity log it shows that it finishes before the loading is finished → it is a little bit weird

1. Now, please check if you have successfully added a service to your application.

Sidebar → monitoring analytics → wait and log → proof she has edited, shown

[If the application is still “staging,” ask what he/she thinks “staging” means].

1. Here is the next scenario: *Your co-worker is testing out the WordPress site you have just created but she is having trouble uploading a file to it.*

A. Please navigate to the Bluemix documentation for creating a WordPress site *without* using the search bar at the top of the page

Docs → went down page, then nav bar → creating web apps → WordPress starter → “getting started with WordPress”

1. You want to find out what the maximum size of a file you can upload to your WordPress site. According to the Bluemix documentation on WordPress, please tell us the maximum file upload size.

control + F something I couldn't see

then went down the page

control F again

tried several things that didnt work “file size “ “size” “File” too many of those “maximum”, get to below. If still curious would use Google file size

500MB

[Questions to ask]

What do you think of the layout of the documentation?

What strikes you first?

Do the titles and headings make sense to you?

User 03

I. Here is the scenario: *Imagine you are a web developer at a mid-sized company that is in a trial period to test out the Bluemix software, as you can see in front of you.*

A. Please create a WordPress web application from your Dashboard.

See everything quickly, create- web - click php bz don't see WordPress at anywhere. And then continue, naming the app "website", not sure if I am at the right path.

Read through the page, seeing some structions, thinking possible at the wrong page.

I may come back to dashboard to see if I miss anything.

Click different buttons to see what are they.

Looking arounds, click "service" not sure if it's what I am looking for, looking again at the catalog to find WordPress. Then go to "solutions". Go back to dashboard.

Type search at dashboard, not seeing anything happening. Don't look like filter to me.

Wondering if search is working, and doesn't do anything.

Look at the app one more time, and click "staging", and checking out documentation. Go to search "WordPress".

Go back to dashboard and click "create a app" again, "web" and search on the page for WordPress. Wonder if it's in php. And click "boilerplate".

Go back to "docs" and search "WordPress".

Go back to dashboard and "add a service", and search for "starters". Either google it or contact somebody about it.

timestamp: 6'36"

[IF THEY GET STUCK AT THE STARTER PAGE, PROCEED TO **B**... If not, SKIP task B.]

Open the "WordPress", click "create". While waiting, playing with fingers.

I can see it's starting, and I am back to where I am before.

B. Using a WordPress "Boilerplate," continue to create your application.

[Mike leads back to catalog]

[What do you think about catalog page? Navigation to other apps?]

Things looks very clear. I would assume click on these will build apps. I would use these third part applications. Data management and wonder how I manage data, will it be mySQL bz that is

something I am familiar with. Data capability etc. (He lost in the page and don't remember the task)

I will quickly narrow down the category by using the left side filter.

If I am being picky, if I am looking for somethings, these are obvious, and it looks obvious to me. It's clear that I can tell the coordination, nothing really confused for me, it seems straightforward. Some images are not supportive.

timestamp: 9'31"

[ONCE IN THE CATALOG PAGE, ASK THEM HOW THEY FEEL ABOUT VARIOUS PARTS OF PAGE]

C. Please evaluate the various pricing plans for the SendGrid Email Delivery Service and tell me how much the Platinum plan costs using the application you just created

Click "sangrid", and see the cost monthly. Select my application, and service, and using a trial. And create the app. I don't remember I have applied one before. Go back to dashboard, and I never applied "sangird", and found sangrid at the app I've created. Click "see credentials", it's already installed.

timestamp: 16'50"

D. You remember that your boss has told you that your company is simply trying out Bluemix and does not want to be charged. Please show us how you would avoid being charged and then finish creating your application.

Knowing it's a trial, and click "pricing".

timestamp: 18'

E. Now, please open and view your WordPress site using the Bluemix-generated URL.

Go to dashboard and click my app, and click on the link. Input personal message. [Phone calling, he texted back, the usability test paused for seconds] And see the white page, I am going to refresh the page, bz I am anticipating a log in page. Then I log in.

timestamp: 23'15"

[Walk them through the WordPress setup process].

F. Confirm that you can show and share your WordPress site to your co-workers.

I just want to make sure homepage works. Just open a new tab and show his co-workers.

timestamp: 23'55"

II. Here is the next scenario: *Your co-worker from the IT department has requested the ability to collect data about how smoothly your WordPress site is running.*

A. From the Dashboard, please add a service to your WordPress application. Find a service that monitors and analyzes the performance of your application and add it to your WordPress application.

Go back to dashboard and catalog this time. Just type in and search “analyze”, and I see several selections. “Big data” maybe, I don’t care about geodata, “time series database”, “security” etc, and “monitoring and analytics” may be right. **Mouse hovers and read the descriptions.** Notice I am still at trial so just stick to the free one. Wonder what performance. Select “dev”, and click “create”. See “restage”, **the little icon makes me wonder if anything wrong, but actually not.** Go back to dashboard, Wait for staging. **I am wondering how long will it take, it will be nice if there is an estimation time to spot, something would be nice.** I just refresh the WordPress page and see it’s still staging. And look at documentation. I am wondering I am at WordPress at dashboard from documentation, so I just want go to **dashboard to see if I can enter WordPress.** (after a while) I assume it’s not. I think it’s the problem of free plan. And call IT guy over and show what I have done.

timestamp: 31'

B. Later in the day, you realize your app is running slowly and needs more memory to continue running smoothly. Please use Bluemix to increase your application’s allocated memory to 6 GB.

Go to dashboard - overview, I believe the memory at dashboard are what I want. Click to increase the memory and save it. And wonder ... go to overview, see at gear, and delete an app, give a glance at the app. Wonder is there some reasons the setting doesn’t apply to the app. Delete the app and realize the service is good again. There is a bug in the app I thought. Go back to see if I still have the memory space. And now I will show IT guy here. I will give it another two days and see how it runs, and if it’s good, I will tell my boss.

timestamp: 36'44"

C. Now, please check if you have successfully added a service to your application.\

[If the application is still “staging,” ask what he/she thinks “staging” means].

[staging]

Staging is a status when you try new things, and new things will not break anything, staging will mean trying new things and not break them out.

III. Here is the next scenario: *Your co-worker is testing out the WordPress site you have just created but she is having trouble uploading a file to it.*

A. Please navigate to the Bluemix documentation for creating a WordPress site *without* using the search bar at the top of the page

It's my first time come across this task. Go to “docs”, and glance the website, and “create a web app”, “WordPress starter”.

timestamp: 38”13

B. You want to find out what the maximum size of a file you can upload to your WordPress site. According to the Bluemix documentation on WordPress, please tell us the maximum file upload size.

Control + f, “upload”, goest to FAQ, I am familiar with Object caching, so Object storage will be some memory and space that specific object will take. Not super familiar, and see how I manage my container. Not “http”, goes to the button of the page, and it looks like what I want. I would think 500mb is the default storage. I will stop there. [500MB?] That doesn't look big but it will be my answer.

[how do you think about the layout?]

I did kind of search, I can see from glancing that the usage is very clear, and “upload” goes to FAQ, I would not anticipate go to FAQ but that's also fine. As far as this page goes, I feel they put efforts.

[Any other technology stumble you?]

Thinking about realistically 500MB is too small, WordPress is normally 1GB or 2GB. Probably upload files somewhere else, but not sure about it. It's possible 500MB is default. It's surprising for me. I am looking for numbers right now.

I jump straight to search function.

I notice the basic layout seems to correlated to the dashboard. **WordPress is in boiltplace is hard to find.** It's fairly easy. The first two seconds I think there are a lot, then it's easy to find stuff. If it's a pro account, then if I want to see the things I want to, it will be there, be different.

[Is it overwhelming?]

Well, maybe I would incorporate. It was only a second or two that I feel overwhelming. Maybe an **immediate filter at left side bar will be very helpful.**

My eyes go to the left top and go to the left sidebar, try to find a search field. Normally search fields are automatically highlighted.

timestamp: 40'44"

[Questions to ask]

What do you think of the layout of the documentation?

What strikes you first?

Do the titles and headings make sense to you?

User 04

I. Here is the scenario: *Imagine you are a web developer at a mid-sized company that is in a trial period to test out the Bluemix software, as you can see in front of you.*

A. Please create a WordPress web application from your Dashboard.

U4 goes to dashboard, read cf, virtual machines, and etc, clicking on icons, and since it doesn't require lots of application, I create an app.. "Create an app"-web" - I can't read "communities .." and click "boilerplates", and click "WordPress". And read descriptions about CF, and select "space", I don't know what is space, and using existing space, click "dev", give a name "WordPress-tornado". Click options, I expect "php" to have different versions, like 5 vs 6. Click DB, and read the descriptions about DB read the free trial info. Want to see how can I increase the memory for free. It shows the panel is clickable, but nothing is happening, that's strange. It give me options but not able to select anything. But in SendGrid I have options.

I would expect a kind of status when creating the application. It's cool that they have Git, and own command line. Git is awesome. It should give me a **progress bar** so I can understand the staging process. Click "Environmental Variables" and click "copy" icon. So I can add my own environment variables. I would like to use the code provided here bz what if I have already had SendGrid account. Environmental variables will help me to see what environment is helpful. Goes to increase the memory that help me scale the application.

Go to individual dashboard by click "overview", think it's cool. It gives me services I have created and the app is staging. I like the dashboard that everything is upfront apart from the coding part. Current charges is cool. Why is the staging is so slow. Click "add git", then close it. I don't know what "add git" mean. Think it's weird. What about I goes back to see instructions in documents and then go back to "add git".

Then the app is not running. What happened. Copy the link and test. I didn't see the refresh button on the page. And **refresh the page and it's running**. Then fill the form of WordPress. In the meanwhile, I want to see what the difference about Bluemix. It's cool that I can increase my memory. I never used this service in AWS, but I want to increase the memory. I want more people come to my website and remain in my website so I want to increase the memory.

Go the "files and logs" to see the status of WordPress. It looks like instance that the blank space appear at WordPress. And goes to "logs" and want to expand the second left sidebar.

And then log into the WordPress. And see "environmental variables" and see why it takes so long. And test the website after logout. And at the button it says "powered by IBM", I don't want it to show, so I log in again to "appearance", and check the code. They (WordPress) have changed a lot. All these steps are pretty awesome, they are quite straightforward. And I want to see the documentation if they are good. Check left side bar.

[IF THEY GET STUCK AT THE STARTER PAGE, PROCEED TO B... If not, SKIP task B.]

B. Using a WordPress “Boilerplate,” continue to create your application.

Already did in step A.

timestamp: 10'

[ONCE IN THE CATALOG PAGE, ASK THEM HOW THEY FEEL ABOUT VARIOUS PARTS OF PAGE]

The catalog is a CF application which Bluemix provides. From boilerplates I feel the “view more” is irritating. Because I want to know more but it needs click. They should have druple boiletplace. These are very expressive, put some things simple as WordPress and something complex like cache they put together. It’s good but it’s strange. That’s cool the py, php, etc.

Click on php and think it will allow me to create a container, a machine. But I would like to see which version of php do you provide. Click “back to dashboard”, it pops up, I don’t like it, because pop up means it’s not directly related. These are watsons, services. some are interesting for me bz I never use Watson, but I am interested in knowing more about Watson. Because if I am in a research project, it will be helpful. I would like to use it for my 501 interview transcripts.

It’s confusing, they have mobile first and mobile application, this allows me to continue explore. I don’t think other service providers will have some many options, a little confusing but still very good. The mobile things are confusing. These are not mobile application but just services. They have everything, which is pretty good, but some application I will never use. I like this dashboard. And explore the category and supports.

timestamp: 16'

C. Please evaluate the various pricing plans for the SendGrid Email Delivery Service and tell me how much the Platinum plan costs using the application you just created

Go to overview, and click “SendGrid”, “see creterials” and open in new tab. Try to remember where I see different pricing options. Account settings in SendGrid. I can’t really find it. Click on the gear and goes to account setting. And click the left sidebar “object storage”. And goes to add a service, search “SendGrid”, and goes to the page. And input “SendGrid” using a service name. And give a notice “create service”. The space is developing and staging, these are different environments, or they can use diff products, and each stage has each email sending to one app, **it will be nice if I know if you are going to use a service just created**, it’s not that evident for me.

timestamp: 22'

D. You remember that your boss has told you that your company is simply trying out Bluemix and does not want to be charged. Please show us how you would avoid being charged and then finish creating your application.

At overview, goes to “pricing”. And estimated the cost. **It’s nice the cost is upfront, bz other service you need to account the total cost**, like Amazon service. You need to go to service dashboard, you will need to go there through accounting dashboard, but here it’s upfront. Good features.

timestamp: 25’

E. Now, please open and view your WordPress site using the Bluemix-generated URL.

I did it.

timestamp: 25’30”

[Walk them through the WordPress setup process].

F. Confirm that you can show and share your WordPress site to your co-workers.

Log out of WordPress, and open in cognate windows to see if it’s accessible. Through email or slag.

timestamp: 26’

II. Here is the next scenario: *Your co-worker from the IT department has requested the ability to collect data about how smoothly your WordPress site is running.*

A. From the Dashboard, please add a service to your WordPress application. Find a service that monitors and analyzes the performance of your application and add it to your WordPress application.

Go to catalog and then dashboard, but show me the hand when my mouse hovers “create an app”. And goes to DevOps, I could use “New Relic”, but I like to use something IBM provide, bz I just want to try new thing. And then add “M & A”, it gives me a warning. Then goes to “Bind a service”. And select “M & A” bz of the warning. The warning in a small form but still it’s a warning. The DB is on its own, and also Object Storage is also in its own. Some services are not unique to my application.

timestamp: 29’

B. Later in the day, you realize your app is running slowly and needs more memory to continue running smoothly. Please use Bluemix to increase your application's allocated memory to 6 GB.

I go to php, just increase Memory Quota to 6GB and click save. It's straightforward. "BlazeMeter" can be used to find out the service and see if the app is running.

timestamp: 30'

C. Now, please check if you have successfully added a service to your application.

Go to overview, and "M & A", and I want to see faster speed. **Speed is really important to me.** And see it's working.

timestamp: 31'

[If the application is still "staging," ask what he/she thinks "staging" means].

III. Here is the next scenario: *Your co-worker is testing out the WordPress site you have just created but she is having trouble uploading a file to it.*

A. Please navigate to the Bluemix documentation for creating a WordPress site *without* using the search bar at the top of the page

Go to "overview", and find problem in 7 instances. Can't find a way to cancel the change. And find that sensitive to mouse rowing. And the warning window doesn't tell me what are the changes. Goes to "Doc", and "Create a web" - "WordPress starter". It's good bz it follows same structures.

timestamp: 32'

B. You want to find out what the maximum size of a file you can upload to your WordPress site. According to the Bluemix documentation on WordPress, please tell us the maximum file upload size.

In the same page and control+f to find out "Maxi", bz it's a common problem of php. Bz it doesn't allow you to have big files. Or goes to "files and logs" - "app" - "php". Think it will be for your instance to increase the file size. It will be nice if there is a search bar on the top at catalog. It will be nice to type application and search, and being able to create.

timestamp: 34'

[Questions to ask]

What do you think of the layout of the documentation?

What strikes you first?

Do the titles and headings make sense to you?

User 05

Task 1

Task A

See if there are different platforms he can create. WordPress sounds like a solutions he said. He went to web and application on Solutions. Solutions look like information page, not getting started. Went to catalog from solutions. He saw WordPress on Bluemix.

Clicked.

Not view docs

Space dev reasonable option

name → awesome WordPress.

Nice spaces already created

name Bluemix.net, sounds like it in the cloud.

SendGrid

7c / GB / hour → unit seems strange to him.

Virtual service being spun out

default user account that can go

staging and pulse going → not ready yet

he tried the link ya not ready.

no git repo ready → maybe i should create one

he tried going to command line → curious about “doing everything on blu9emix” → why do i have to use a command line ---> wondering about what integration → if can code on Bluemix too.

strange that it takes so long to stage

not sure what he's supposed to be doing.

went to docs → oh maybe i should go to dashboard to see the main thing that's going on

went to docs → see “app overview page” went there. “overview” → shouldve been more obvious didnt notice had to go there and also where it is. → DONE

Usually WordPress can just go to it without having to write any code.

Maybe I should go through the install process

He proceeded to WordPress and then sign up and stuff → then saw blank screen saying there is a problem with the server on inspect element. Then tried to login again since the app is supposed to be running already.

Alright here we are, now it works.

Task C

Check price → Solutions, may be not

oops saw Service on Dashboard

and then goes to this account overview. [need to check the video]

He went to SendGrid 3rd party site → Andre gave a hint to do it within Bluemix app

Then went to Bluemix → Pricing Couldnt find it

I dont believe im in the right place

Go back to Dashboard.

Can't tell if the app health is one thing or many things

Then go to the app, Dashboard, change it to list.

What's this guy → the robot icon is confusing.

Couldn't find pricing plan.

He expects pricing to be at pricing but couldnt find SendGrid easily. Confused what he was going through for pricing for send grid. he scrolled down and down and down and couldnt find it.

He kept going to "Solutions" to find solutions. But it looks like marketing page it says. "Marketing page might have pricing stuff on them". At this point, he might google it.

He went to catalog, then he went down the Catalog page, so overwhelming he just went through the entire thing without noticing SendGrid at all.

Documentation is not helpful

Finally went to send grid on boilerplate → platinum cost → got the price monthly

SendGrid was the last thing → didn't notice it during the process. His first thought when seeing the boilerplate → tricky page → if he created a WordPress he would expect the added services to be at the side of the dashboard. Super confusing, not intuitive although may not be hard to go around if used to it.

Terminology: compass is not intuitive

3 columns layout is not making sense on the boilerplate

pricing plans expected to be obvious columns

View Docs, → most inviting → makes sense that it goes to the docs giant page

Big docs is not something he likes to read so usually try to avoid it.

he thought the boilerplate page was also to modify his WordPress page instead of creating a new one. ow ow

the warning under the 4 services → gives less confidence about whether he could create the application successfully. From startup → quirky fun this is not really.

To make sure he's free of charge he went around → when he does something with cost → should be in account options → currently paying 923\$ [TASKS ISSUES]

He doesn't think there is a straight up free option without googling.

E & F worked

A. From the Dashboard, please add a service to your WordPress application. Find a service that monitors and analyzes the performance of your application and add it to your WordPress application.

Went to his app → he saw app health

How do I add service?

Add Service

Watson?

DevOps → Monitoring Analytics → looks free → can deal with that

Warning → already exists in this space → already running??

He went out the page to check dashboard → then back button gone he couldn't go back.

"It's already running why can't I see it"

Misleading warning message

Why does it say it's running when it didn't???

The dashboard encourages him to add applications

Activity log → good to know what's happening

Monitoring is working → "feature"?

He added it to the application → done

B. Later in the day, you realize your app is running slowly and needs more memory to continue running smoothly. Please use Bluemix to increase your application's allocated memory to 6 GB.

Saw he has 512 MB on his dashboard → but isn't it PHP specifically?

then he clicked the memory to go up to 6gb, then he saved it. Staging.

Done

C. Now, please check if you have successfully added a service to your application.
Showed up under the application dashboard → its already added in the list.

[If the application is still “staging,” ask what he/she thinks “staging” means].

I. Here is the next scenario: *Your co-worker is testing out the WordPress site you have just created but she is having trouble uploading a file to it.*

A. Please navigate to the Bluemix documentation for creating a WordPress site *without* using the search bar at the top of the page

He went to dashboard to find docs but couldnt find it.

He did not notice that.

He went to solutions → then go to catalog → view more what (on the service / boilerplate)
→ then boilerplate → WordPress docs → done

B. You want to find out what the maximum size of a file you can upload to your WordPress site. According to the Bluemix documentation on WordPress, please tell us the maximum file upload size.

scrolled down the page. done.

he might go to WordPress in general (google) to find the limit instead of Bluemix documentations → wouldnt expect it to be set by Bluemix.

[Questions to ask]

What do you think of the layout of the documentation?

What strikes you first?

Do the titles and headings make sense to you?

User 06

A. Please create a WordPress web application from your Dashboard.

Create an App -> Web App

Not sure if use "PHP" or if should pick something else

then pick "PHP"; or maybe boilerplate section -> premade apps?

Then catalog -> thats what I wanted

Alright the boilerplate (WP) -> guessing want to do -> dev space, named it

The top icons -> represent what he is selecting they are down here -> components -> and some different add on apps -> MySQL, Object Storage, SendGrid -> Premade Recipe thing.

Earlier didnt realize if he can click up there, until asked.

Didnt know really what space was -> probably something that need to be set up before

Then create -> go to start coding

It is nice there is a staging area, but the pulsating.

It's nice if can pull the repository and see whats going on there right now.

With what he did, shouldve fully created

Confused if should be uploading WordPress right now, but it seems like he needs to do something or downloading something -> staging but dont know what he's supposed to be doing. It seems like it is creating instances but keep checking the wp link still not working. *CONFUSED*.

at this point usually already start working on WP

The app is not running so he went to dashboard to check (still confused and dont know whats going on)

Went to app dashboard see different files logs and overview and php to check the status of the app. Tried *restarting* to see if it will get set up (although hontestly still in the process, but he feels anxious)

Running -> WP

He was curious why it failed in the first time. It started staging on its own, why would it fail. if he launches something for production, if fails at the very first time, not a good sign. He would browse the whole logs.

Vanilla WP installation -- dont expect to fail the first time

logs -> said started but didnt actually started all the way. Curious what happened so went to files and logs -> to see what caused the fialures -> but it does not contain logs for staging tasks -> so couldnt find info needed

WP works after checking the WP page → but kind of expected a “confirmation page” on Bluemix that this has happened
[IF THEY GET STUCK AT THE STARTER PAGE, PROCEED TO B... If not, SKIP task B.]
B. Using a WordPress “Boilerplate,” continue to create your application.
[ONCE IN THE CATALOG PAGE, ASK THEM HOW THEY FEEL ABOUT VARIOUS PARTS OF PAGE]
C. Please evaluate the various pricing plans for the SendGrid Email Delivery Service and tell me how much the Platinum plan costs using the application you just created Didnt remember where to find it Tried clicking SendGrid on catalog and took him to a separate SendGrid third party page, dont know how to see the price thre The app stopped again in the middle Went to pricing page to find SendGrid → couldnt find the pricing there He went to Catalog → found SendGrid by using Control F → then went to the SendGrid page → get the platinum for 3.99 c / gb / month.
D. Now, please open and view your WordPress site using the Bluemix-generated URL.
[Walk them through the WordPress setup process].
E. Confirm that you can show and share your WordPress site to your co-workers. checked the backedn and front end (Bluemix then WP) → can share after checking all is running The navigation is confusing → navigation looks entirely separate across pages

- I. Here is the next scenario: *Your co-worker from the IT department has requested the ability to collect data about how smoothly your WordPress site is running.*

A. From the Dashboard, please add a service to your WordPress application. Find a service that monitors and analyzes the performance of your application and add it to your WordPress application.

Dont know the difference between adding and binding a service

Clicked add a service on dashboard → catalog → took a while and scroll up and down to find what app resembles “monitor” (on the search bar) → found the app

Went to the boilerplae for that → “What is this warning” → do i already have that then? so didnt add it.

“health decrease” → and then it is not running → looks like it stopped again

went to dashboard if already have monitoring and analytics -> it said there was instance of the service → why? → then went back to the monitor app again → lets see what if i create it → then restage app → “i didnt believe the message I already have it in the space” → not sure if “space” means something else → assuming it talks about this app. → maybe it means the service already in another app here → it makes it sounds like its already in the app but actually in another application app → dont know whats going on

restaging message → when doing production → would delay doing monitoring and analytics → would not be too keen of doing that → may prefer using different services to do the analytics

checking Monitoring and analytics dashboard (on app dashboard) → it is an empty space. Please wait.. bad request... → looks like trying to load 3rd party resource → cross site login / request → sending cookie too big to that

he would try resetting the incognito to reset the cookie (in real life)

Then he checked if his app is running → it is

It seems that the monitoring analytics thing is running too but why is there “bad request”

looks like its working

by clicking on the service pages on app dashboard → he tried to check if the other ones working, but since they are not → maybe its a javascript loading errors.

should i reload the whole thing? will i see anything?

“Bad request still” → whatever its sending over to that server, whatever cookie i have its way too big for what it would expect.

He tried restaging → the pop up came 3 times → dont know if it fails to respond or something else.

Finally can see link to clear db → but still there is error on monitoring analytics → but made sense because he removed it.

He refreshed the whole page to see mon analytics disappear, tried to readd that again to get it to work.

HE went to his app → add a service.

catalog page → keep “going the hard way” (up down scroll)

mon analytics → created, restage. Didnt give the initial weird error message.

Added it.. now failed to restage -- *the notifications dont match with the activity logs*

still bad request with monitoring and analytics.

he went to incognito window.

finally it worked. Bad cookie he had on the browser.

he wouldnt count for bad requests and errors → should sell for cover → whether its browser or systems fault dont matter → and it seems like its Bluemix’s fault, cookie sent by Bluemix handing the session over.

working now? went to overview → “my app is not running”

“What is the link to my app” → oh the frontend

“definitely not running”

monitoring and analytics now showing downtime and uptime. good.

now the ap is not running again..... wth

“DID I JUST SCROLL SOMETHING HERE”? “reset” → the memory.. *danger danger*

“is it running” “it says its not running again” “health 0%”

“keeps trying to start it”

its working now (frontend). “although Bluemix says its not running”

not sure if he needs to refresh the interface. it doesnt match whats actually happening. Delays in the monitoring and analytics and dashboard seems like.

representations on monitoring & analytics → dont make sense (said 50 instances although he only has 1). he doesnt understand the color of reps

he is still not sure what happened and caused the errors.

he went to files and logs to check what caused the staging errors

- B. Later in the day, you realize your app is running slowly and needs more memory to continue running smoothly. Please use Bluemix to increase your application’s allocated memory to 6 GB.

“dashboard app” → changed it (why scroll can - danger) → changed to 6gb → restarted

wondered if he can add another instance → would it let him restart one instance a time and have no downtime, this would be nice → nice recommendations → prevent downtime

app health and running → not trusting it → not matching the frontend

the activity log seemed helpful → but not matching what is on the notifications up there, wasn't sure the distinctions between two, and not matching the actual reality. not sure if its not updating real time, needs refreshing. He would just refresh2 to see whats happening

C. Now, please check if you have successfully added a service to your application.

[If the application is still “staging,” ask what he/she thinks “staging” means].

II. Here is the next scenario: *Your co-worker is testing out the WordPress site you have just created but she is having trouble uploading a file to it.*

A. Please navigate to the Bluemix documentation for creating a WordPress site *without* using the search bar at the top of the page

he went to the dashboard → (not noticing the docs at the top) → went to his app → trying to find “WP site” at navigation bar → files and logs → not helpful

“Clicked docs” → web apps → WordPress → pressed WordPress codex

B. You want to find out what the maximum size of a file you can upload to your WordPress site. According to the Bluemix documentation for WordPress, please tell us the maximum file upload size.

scrolled down → went to ibm object storage faq → need to find out about ibm object storage → since its scalable platform → he would think that files stacked would be in object storage → so went to object storage docs → to see the limit that ibm object storage can do → went back to the docs home → tried to find ibm object storage → there two versions (which one am i using????) → went to version 2 → couldnt find it there

went back to dashboard → went to object storage dashboard on his app → went to docs about object storage docs v 1 → control f → couldnt find “limit and size” → looking for something general about limit → “he would be looking at the WordPress configuration now”

he kept going back to files and logs to see the limits →

he would be googling at this time → couldnt see it, obviously would be testing by uploading information here.

he would expect the info would be on files and logs → higher level service management → no easy way to get into the options for the object storage he can find → options are

he would not expect this information to be on WordPress documentation on Bluemix. → recipe for it should be supporting in object storage.

went to wp docs with help → not sure if it is for one file or for all. → wording task issue

the text for this info on the docs is also not helpful → ambiguous → the default quota for object storage → is it individual and whole

he is trying to see the limitation on the WordPress → should be able to find it there → it seems like there is an ibm OS plugin for WordPress

limitation → tasks not specific enough because we dont know the mindset of developers → but good thing find usability problem in other areas

[Questions to ask]

What do you think of the layout of the documentation?

What strikes you first?

Do the titles and headings make sense to you?