



IBM Bluemix

Interviews, Personas, Scenarios

Andre Siagian · Lavanya Kumar · Lu Huang · Michael Nguyen

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Executive Summary

This report documents the data, findings, and recommendations from the interviews conducted in order to evaluate the usability of IBM Bluemix. Specifically, our client is interested in discovering the intuitiveness of creating and hosting a WordPress website on this software. We conducted five behavioral interviews to learn about the backgrounds and skills of our various users as well as a stakeholder interview with IBM User Experience Professional, Kevin Hicks.

Our users included technical managers, experienced developers, and self-taught developers. They were identified for interviews based on their current employment statuses as well as their experience with web development (WordPress experience was a plus although not mandatory). While our users displayed a variety of experiences, we were able to gather very valuable information on their interpretation of software development processes, interpersonal relationships at work, and requirements for adoption of new technologies. All user interviews were conducted in person with a two-hour session allocated for each user.

Key Findings and Recommendations:

1. All of our interviewees highly value documentation that is robust, accessible, usable, and accurate.
 - Recommendation: The Bluemix team should conduct usability testing with multiple users to specifically evaluate the usability and the robustness of Bluemix documentation.
2. Nobody really knows what Bluemix is.
 - Recommendation: IBM needs to demonstrate to potential users exactly how Bluemix can specifically fit into the workflow and technological infrastructure of a variety of client demographics.
3. Decisions regarding technology and software adoption is deferred to management-level employees.
 - Recommendation: IBM should be setting up contact with management-level employees, or organization members that specifically make the final decisions on technology adoption.
4. Developers value software and technology that remain flexible and adaptable to current web development trends.
 - Recommendation: With respect to software updates, Bluemix should make user adaptation to new changes effortless, disaster-free, and intuitive.
5. Application reliability is critical for professional use.
 - Recommendation: Bluemix should launch major updates only when they have been beta tested successfully.

We feel that the information gathered from our stakeholder and user interviews will provide strong insight into usability recommendations for the overall Bluemix platform as well as the specific process of creating and hosting a WordPress website. As we continue with the project, we hope to analyze the features of other competing products as well as design tasks for formal usability testing.

Introduction

IBM Bluemix is an open-standards, cloud-based platform for building, managing, and running applications of all types, such as web, mobile, big data, and smart devices. What makes the system unique and sets it apart from its competitors (i.e. AWS, Azure) is that it is essentially a “one stop shop.” Capabilities include mobile back-end development, application monitoring, and features from ecosystem and open source partners, all provided as a service in the cloud. Users choose the type of application they want to create as well as the language they want to develop in. In addition, users can choose which IBM or third party APIs and services they would like to integrate with their projects. All of this is hosted and managed by IBM Bluemix and all the code can be accessed via Bluemix or GitHub. Finally, because the application is based on Cloud Foundry, which is an open source project, developers can interact with the open source developer community and take advantage of the innovation that IBM Bluemix inspires. The software typically caters to small companies since their developers tend to be open to experimentation and liquidity in their development process.

Our primary point of contact for this project was Kevin Hicks, a User Experience Designer & Researcher at IBM who has been working with the company for about thirteen years. Christopher Kelley, a Design Researcher for IBM Bluemix DevOps Services is also involved in this project. “IBM wanted to further develop their cloud development software... and has a history of acquiring other companies and merging code from them. [We are] trying to combine it all in a more user-friendly way so that any developer can intuitively create a program/software.” (Hicks 1/25/2015). With so many runtimes, services, and APIs, the ability to streamline the process of building an application is a difficult one. Fortunately, we were able to scope our project to a specific aspect of IBM Bluemix that would hopefully result in a workflow catered to a targeted audience.

We decided to scope our research to answer one major question: “How can the experience and general design flow of a creating a WordPress site be optimized?” WordPress has a strong history in the software development community and requires a fairly low learning curve once integrated with Bluemix. However, getting to that step and initially navigating through the Bluemix web interface is unstudied. Currently, users complain about the functionality, performance, and lag of the software, and when they want to find documentation on a particular aspect of an application, they find it very hard to do so. As a final deliverable for our project, we hope that our recommendations will not only provide reason for a streamlined process in creating a WordPress site and help with tips on how to easily assist the user with documentation when necessary, but can also be extrapolated to improve Bluemix’s usability as a system in general.

Methods

Goals: The overall goal of our interviews was to gather data that we could present to the IBM Bluemix team. This data could ideally inform key design decisions for the Bluemix user experience. Our focus during the interviews had two components; first, we wanted to understand organizational and individual decision-making regarding web development tools, and second, we wanted to analyze the technological adoption behaviors.

Recruiting Methods and Criteria: During our initial stakeholder meeting with IBM Bluemix, we discussed different ways to recruit users for interviews. As IBM is a large, publically traded corporation with years of experience in usability testing, they had already outlined “the ground rules” and processes for us. They offered compensation for interviewees (pending approval of two formal documents that must be filled out by the interviewee). IBM also offered to do the recruiting work for our SI 622 group, which included reaching out to local Meetup groups of software and web developers in the Southeast Michigan (and Toledo) area. The IBM Bluemix team had no prior relationship with any of the interviewees.

Next, we contacted each interviewee with a formal email explaining the exact purpose of our interview, a list of interview possible times, the address to North Quad, as well as the compensation amount for participation.

As a result, we ended up conducting interviews with three of the contacts that IBM Bluemix had sent to us, along with two local interviewees that one of our SI 622 group members had recruited through professional connections. We intended for our overall interviewee group to be as diverse as possible, especially with regards to gender, age, area of technological expertise, years of professional experience, and general goals or aspirations. We confirmed these demographic and professional indicators through LinkedIn as well as preliminary demographic questions at the start of the interview (these introductory questions can be found in Appendix A).

Interview set-up: During the interview, we used audio recording software to document the interview. We also delegated one person (or two, if possible) to take notes on his/her laptop, while another group member asked the questions. Although we mostly adhered to a pre-prepared script of interview questions, the order of questions asked was revised on the spot in order to promote a more fluid and natural conversation between the interviewee and the main interviewer. Furthermore, the note-takers would also insert follow-up questions that they felt were relevant.

Post-interview: The team agreed on three particular personas (and accompanying scenarios) that had surfaced as a result of our interviewee groups.

Findings and Recommendations

Summary Results

The most common concern running through each of our interviewees was about the friction associated with adopting new software and services. It is critical for teams of developers to agree on a consistent workflow, which if changed or modified by new software adoption, could create process breakdowns. Thus, it became evident that all our interviewees needed a platform or service that offered highly adaptable yet consistent features throughout all software updates.

Findings, Evidence, & Recommendations

1. All of our interviewees highly value documentation that is robust, accessible, usable, and accurate.

- Documentation is the first thing that all our interviewees are looking for when conducting a trial or trying to adopt a complex new tool, service, or software to support their web development work. Documentation materials are necessary because the interviewees need to be educated about how to use the system before they start using it. All interviewees tended to refrain from using a supporting tool for professional use unless they know how to use it. U1, U3, and U5 mentioned that a lack of robust and easy to find documentation made life harder for them and/or their teams, and therefore could deter them from adopting a new tool. U1 and U5 also indicated that lack of proper documentations could deter them from a particular software.
- **Recommendation:** Bluemix designers should conduct usability testing with multiple users to specifically evaluate the accessibility and the robustness of Bluemix documentation for the various applications and services it offers. Bluemix can also conduct a study to find out what other platforms have the best documentations based on previous test cases. To elaborate, they can conduct a competitive analysis to improve Bluemix's documentation based on the methods used by other brands.

2. Nobody really knows what Bluemix is.

- None of our interviewees had ever interacted with Bluemix or any IBM software in general although they displayed positive impressions of IBM products. This explains some of the hesitation expressed by our interviewees when asked if they had heard of Bluemix. U3 worked at a community college in Ohio that already has its own functional and reliable infrastructure and server facilities, thus negating an urgent need for cloud computing. U3 also owned a consultancy “on the side,” which, although he had full control over, did not have clients whose demands justified investment in a cloud platform like Bluemix.
- **Recommendation:** Currently, IBM focuses on marketing Bluemix to industry professionals with whom they already have an existing relationship through former or

current business. IBM needs to demonstrate to other potential clients exactly how Bluemix can specifically fit into the workflow and technological infrastructure of these various client demographics.

3. Decisions regarding technology and software adoption is deferred to management-level employees.

- All of our interviewees (except U5) are currently working in non-management job roles. Their responsibilities include developing and implementing code but are not specifically tasked with evaluating the effectiveness of current software. This reveals a professional environment that favors the status quo, until the point at which someone (namely U1 and U3) raises a concern directly with their superiors. U1 and U3 both felt like they were speaking on behalf of other co-workers regarding a software, technology, or programming language that needed to be modified or discarded in favor of a newer product.
- **Recommendation:** IBM should be setting up contact with management employees, or any member of an organization that specifically makes the final decision on technology adoption. We received calls from an IBM customer service representative informing us of Bluemix seminars, but these seminars are only of use and value after a manager or key decision-maker decides to engage with Bluemix via a Bluemix trial or switchover.

4. Developers value software and technology that remain flexible and adaptable to current web development trends.

- Some of our interviewees (mainly U1 and U3) voiced concerns over the rate at which a software or technology changes and updates itself. Developers highly value process and implementation, so having static, consistent, and adaptable workflow becomes paramount to their efficiency as software and web developers. Therefore, developers prefer software and services that don't update too frequently or too infrequently. Developers prefer software and services whose features, user interface, and information architecture don't change too drastically from version to version. U3 reported that changes between WordPress versions 2, 3, and 4 had hampered his web development process because he had to familiarize himself with the new versions. At the same time, developers value software and services that remain flexible and adaptable, which means that these services should be receptive to developers' changing needs. U1 discussed with us the importance of having dynamic help documentation that would show evidence of updates over time. U5 liked that most cloud computing platforms actively spend the time and effort to survey developers about developer needs and changing use cases.
- **Recommendation:** Bluemix should provide maximum customizability to its users when it comes to software updates. On one hand, updates and services should keep

up with current technological trends. On the other hand, Bluemix should not force users to adapt to new trends that are not yet widely accepted in order to operate Bluemix; major changes should only be done incrementally. Enterprise users are especially slower to adopt new methods given the corporate constraints.

In addition, when there is a new update, its documentation should be readily available and easily accessible so that users can have support for new features. Users should be notified of updates, new services, and new documentations that are relevant to them. We propose changes to the user interface to make the update process and documentation search for new services more intuitive.

5. Application reliability is a critical for professional use.

- Reliability refers to the ability of an application to perform its functions consistently without failures. Despite having different levels of expertise or context, all interviewees who were web developers agreed that application reliability is a top criteria for choosing a service, tool, or framework in terms of support for their web development roles. Failure to access team-generated code (possibly due to an update or version-change in a software) is a major reason for ‘a bad day at work’, as this can interfere with their company’s performance or cause them to lose clients. In a professional context, whether motivated by their career (U2 & U4), their duties for their company (U1, U2, & U5), or their responsibilities for their clients (U2, U3, U4), it is imperative for each interviewee that a supporting tool or service is perfectly consistent in its performance.
- **Recommendation:** Bluemix should launch major updates on the system only when they have been beta tested successfully and ideally with the approval of their member base. Also, Bluemix should refrain from adding new services or features to the system until the services have shown successful integration with minimal to nonexistent bugs. Based on our team’s self-trial, there have been frequent bugs and runtime errors with WordPress deployment, and we would advise that new services should not be added until there aren’t any errors.

Personas & Scenarios

We crafted three personas and respective scenarios based on the data we gathered from our interviews. We started by defining categories of needs, goals, and motivations before defining levels of technical ability for each interviewee. Then, across our five interviewees, we carefully merged their data into 3 personas (user groups) based on parallel characteristics. We believe that these different characteristics (needs, goals, and motivations) critically determine 1) the tools and workflow currently used for web app development, 2) the potential of developer teams to actually consider Bluemix adoption, and 3) the backgrounds and technical skill levels of potential Bluemix users.

Persona 1: "Ian the IT Manager"



Goals:

1. Helping his team to stay happy & productive
2. He wants his team to meet the company's goals
3. He wants work-life balance for his team and himself

Background:

Gender: Male

Age: 34

Job: CTO & Lead Developer at a growing startup in Seattle

Education: M.S. Computer Science, M.B.A. IT Management

Technical Level: 9/10

Needs:

1. Reliable software or services with robust, intuitive, and easily accessible documentation
2. Discover tools or methods to increase the team's efficiency while keeping stress at bay from his team members
3. Identify strategies to strike a balance between meeting business goals and team's comfort.

"A software's documentation is extremely important to me. I find it very unproductive when my co-workers have to waste time out of their day to figure out what the documentation for a specific service is saying. They should be able to easily complete their work and enjoy the rest of their day." - Ian

About Ian:

Ian is a Lead Developer and Chief Technology Officer at a growing technology startup that develops consumer-facing applications. The company is located in Seattle, WA, and was recently acquired by a large venture capital firm specializing in the same field Ian's company is operating in. Ian has both deep technical experience and IT project management expertise, which he obtained from his Computer Science M.S. and IT Management M.B.A degrees. He has had technical and IT project management roles at companies of different sizes and goals, and he had done freelancing in his earlier years as a programmer.

Ian's current role is a mix of project management and programming. He is responsible for leading his company's IT team to meet development goals while considering the requirements of the business goals set by the company's CEO. Being a startup CTO, Ian's management philosophy involves balance and inclusivity. He recognizes that in order to maintain a productive and creative atmosphere in a fast-paced working environment, he has to be aware of the needs of his team members while making sure the team gets things done. That being said, he sets realistic deadlines, and is heavily involved in both the code-writing and reviewing processes.

Ian also prioritizes his team's comfort and productivity, especially when decided on new tools and services to adopt. A service must have reliable and robust documentation, as well as a single, strong function, compared to several mediocre features. In terms of productivity, a bad day for him would

be when he and his team have to drop all their work to manage “fires.” A productive day for him would involve a completed agenda so that he can successfully assist his team in any way.

Ian’s Scenario:

Ian wants a collaborative platform that his team can use to increase efficiency of work on internal projects. He has heard of Bluemix and how it offers a broad set of runtimes and services ready for immediate use, cloud deployment, and scalable hosting capabilities. He decides to test Bluemix by asking his team to implement a blog with the company’s website.

Although IBM Bluemix is relatively new in the Platform-as-a-Service realm, Ian is excited about how the service can improve his team’s efficiency, especially given the trustworthiness and reliability of the “IBM” name. First, Ian tries to find documentation on web development. He selects the “Docs” section on the navigation bar and then browses the page to find “WordPress”. After finding the appropriate documentation, he follows the step-by-step process displayed. He finds that the documentation and wizard are intuitive in getting him started with WordPress on Bluemix.

Ian then tries to configure the services he needs for the blogging application. He discovers useful services that he or his team could use for the blog, such as social login and “Sendgrid” emailing service. Ian then delegates the blog’s maintenance to one of his coworkers.

Ian later finds that the blog is running perfectly with no runtime errors, and that all the services he attached to the site are performing reliably without interruptions. Also, he finds that it is easy for his team to scale the application and add new services, as everything is available on the “Dashboard.” Finally, Ian feels confident that Bluemix is a suitable cloud-based platform for his team because it saves his team time and energy from having to maintain various services and tools separately as well as manage the integration of these services with various frameworks.

Persona 2: "Andrew the Avid Developer"



Goals:

1. He wants to learn as much technology as possible and become experts in his tech fields of his choice
2. He wants to create applications and software that work and are functional.

Background:

Gender: Male

Age: 32

Job: Sr. Database Specialist at a thriving startup in San Francisco

Education: B.S. & M.S. in Computer Science specializing in Database Systems

Technical Level: 8/10

Needs:

1. He prefers fast and functional supporting tools or services and is extremely busy with work. He does not have time for slow build and runtimes.
2. He needs a better way to connect with non-technical co-workers and clients. Many co-workers and clients do not come from technical backgrounds, so it is important to be able to explain documentations and development requirements to them in Layman's terms

"I think integration between software services is extremely important and the integration process should be simple. As long as this yields to a functional feature, I will be happy." - Andrew

About Andrew:

Andrew is a Senior Database Specialist at a thriving startup in San Francisco, CA. He comes from a very strong technical background and has been a developer for more than ten years. After completing a masters in computer science while specializing in database applications and design, he decided to go work for a startup in the city. The work was fast-paced with a very high learning curve, which Andrew really enjoyed. To expand his knowledge on development outside of the workplace, he often attends local meetups and conferences and relies heavily on Google and StackOverflow to find any information he needs.

At work, Andrew primarily works alone and prefers this style of working. He rarely has to interface with a team, but occasionally, he finds himself interacting with non-technical co-workers. They often request certain features and try and explain how they think it would work, using technical terms incorrectly. This can be really frustrating, and Andrew wishes there was a way to better communicate with them. However, when he returns the working feature to them, he isn't cognisant about the structure of his code and how readable it is. As long as the feature is functioning that's all that matters.

Andrew's Scenario:

A co-worker asks Andrew if he can create a “login feature” for an existing WordPress project. Andrew assumes he has been asked to integrate a single sign on service with a WordPress application that has been created using Bluemix. Andrew has a basic knowledge of the software and knows that he has to navigate to the site’s “Catalog” to view services that can be added to an application. However, he doesn’t know which one to pick and automatically opens Google, searching “IBM Bluemix secure sign on service.”

Before integration, Andrew tells his co-worker not to touch the application on the Bluemix platform because he doesn’t want any conflicts. He soon finds the necessary service called “SSO Service,” and he proceeds by “adding” it to the existing WordPress application. However, he isn’t really sure how to integrate the two and chooses to view the documentation for SSO, finding it fairly easy to read. The integration process is easy and Andrew is very pleased at how quickly Bluemix is able to merge the SSO feature into the project’s framework. He feels better that he can alter the code to connect to the backend data as necessary and get the feature working soon. Overall, Andrew is pleased at the speed and integration as well as documentation of Bluemix because it allows him to get the job done quickly.

Persona 3: "Sam the Self-Taught Programmer"



Goals:

1. He wants to have a secure employment in a company with stable yet receptive management
2. He wants to sharpen his technical skills to create a more diversified and marketable skillset

Background:

Gender: Male

Age: 27

Job: Front-end web developer at a local company, freelance web developers.

Education: B.A. History, online courses in HTML/CSS/Ruby

Technical Level: 6/10

Needs:

1. Workplace standards in programming languages and technological adoption policies
2. Reliable back-end, server, database, and infrastructure taken care of by other people or software so he can focus on doing his front-end coding job

"I dislike a high-stress environment. A good software should not cause me stress, and it must have an intuitive design."- Sam

About Sam:

Sam is a self-taught programmer who works as a contracted junior-level web developer at a start-up. Originally, Sam's main passion was History, but he became pragmatic with his job search and discovered software development as a career. Because of his ability to locate and self-structure his own programming education, he highly values free and open-source resources. Therefore, his current work ethic reflects this level of self-sufficiency and independent problem-solving skills.

The shift from a liberal arts perspective to programming guru required a lot of tenacity to adopt new technologies and habits. This explains Sam's entrepreneurial nature, which drove him to create his own consulting business that he develops on nights and weekends. His own consultancy is working on 3 simultaneous projects from clients of varying size, technical proficiency, and project goals. In the next few years, Sam hopes to cultivate his start-up to the point where it will be acquired by a competing company (possibly by the one where he currently works full-time). Sam would prefer not to involve more hands with his start-up projects, as he enjoys being the one making key decisions. But at his full time job, Sam is still marketing himself as a potential convert from contractor to full-time employee. In an ideal work day, Sam is simply checking off tasks assigned to him from a project manager who has carefully assessed the value and vision of the project.

Sam's Scenario:

Sam is sitting at his desk, and is in the midst of some heavy front-end programming tasks. His project manager then sends him another task which has been re-delegated to him because his co-worker (fellow web developer) cannot capably perform this task. The task is to provide more users in the client organization with the ability to post content updates to the client website.

Sam knows that the client organization has had issues with technological infrastructure and web presence. Having not prioritized scalability in his consulting work, Sam is unfamiliar with how to go about performing this task. He consults with his project manager, who also admits to uncertainty about the direction they should take with the client. They then sit down to explore alternative options and platforms for addressing not only this scaling client but also their company's growing amount of clients. As they scour Google for more effective solutions, they come across IBM's Bluemix platform for cloud app development. They are curious but also hesitant to try this out, as they have no prior experience with any IBM products and solutions. Furthermore, as Sam and his fellow developers already have too many priority tasks on their plates, the project manager feels that he may not be able to allocate sufficient resources to the transition and adoption of a new software.

Discussion

Cooper's four categories of limitations allowed us to understand the setbacks involved in developing our personas and scenarios, especially since none of our interviewees had interacted with IBM Bluemix prior to their interview sessions [2].

From a system-oriented perspective, there are unexplored frustrations from the interviews because all interviewees have not used Bluemix before. **From a workflow-oriented perspective**, we are unclear of our respondents' roles in installation, maintenance, and management of Bluemix if an organization decided to install Bluemix. For example, how would errors and exceptions involved in using Bluemix be solved among the development team, and which functions of Bluemix match the requirements and expectations from the company? **From a goal-oriented perspective**, we are unclear of the priorities and opportunities of using Bluemix. Which part of Bluemix is more important to users, and what aspects can waste a user's time and make them frustrated? Finally, **from an attitude-oriented perspective**, we are unclear of a user's avoidance. For example, what mistakes will users try to avoid when using Bluemix to complete certain tasks?

There are also restrictions on the type of data collected. We collected data from user and stakeholder interviews, but admittedly we didn't do market segmentation research and literature reviews. Market segmentation research would have given us a better evaluation of the users while literature reviews could have provided us with pertinent research to the product or its domain.

Pruitt [3] discussed **the bias in identifying users** by using personas. Given the assumption of personas, we cannot include all user types, as there will be overlap between personas. Should we use value-sensitive design approaches to validate our personas, and will the product benefit from our creation of personas?

Conclusion

Speaking with a User Experience Professional of IBM as a part of our stakeholder interview allowed us discover which aspects of Bluemix needed to be studied in terms of workflow and intuitiveness. We were also able to gain a better understanding the software's purpose and the types of users it caters to. This prompted us to begin our user interviews in which we spoke with five developers, all of whom expressed a variety of software needs and specifications, their development process, and their work environment and style. There were similarities across interviewees. Many had never heard of Bluemix, they were very particular about the ease of accessing documentation for code, and they consistently chose software that was flexible and adaptable to current web development trends as well as had a strong reputation for reliability. Moving forward, we would like to release surveys and collect mass data from potential Bluemix users, analyze competitors in the industry, and conduct formal usability tests to gain a better understanding of the users' interactions with the software.

References

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[2]Cooper, Alan, Robert Reimann, and David Cronin. About face 3: the essentials of interaction design. John Wiley & Sons, 2007, pp71, pp50-73.

[3]Pruitt, John, and Jonathan Grudin. "Personas: practice and theory." Proceedings of the 2003 conference on Designing for user experiences. ACM, 2003.

Appendices

Stakeholder Interview

Kevin Hicks (IBM User Experience Professional) – January 25th, 2015

1. What are the origins of Bluemix?

- IBM wants to further develop their cloud development software.
- Main players: Azure, Google App Engine, Amazon AWS. IBM acquired SoftLayer.
- Smaller-medium businesses who are typically not IBM clients can take advantage of - Bluemix as a pay-as-you-go subscription service.
- IBM has a history of acquiring other companies and merging code from those companies. Trying to combine it all in a more user-friendly way so that any software developer can intuitively create a program/software.

2. What are users currently using the system to do?

- Why users pick Bluemix:
- Existing relationships with IBM. Referrals. Trying to get people from DeveloperWorks over to Bluemix. Trying to get more traffic and people to register.
- Hearing about Bluemix through newsletters.

3. What are the positive and negative aspects of using the system?

- Continuous delivery and continuous integration (gradually testing small chunks of code). IBM has an online version of an IDE that developers don't really like.
- Bluemix is also trying to optimize the process of forking code from the IDE. The forking and downloading code process is a bit convoluted. Seems like they want to implement more robust features commonly seen in other software, such as GitHub.
- Finding documentation (help and IT sources within IBM are scattered within different departments), such as Information center, DeveloperWorks.
- Bluemix wants to improve the community/forums and motivate more developers to ask the community for help in their software problems. But Bluemix also acknowledges that younger users don't like sifting through documentation and would instead prefer StackOverflow.

4. What uses/features of the system are most important to the users?

- Data security, IOT, UI
- You don't have to host anything, no hard work, integrate to other services IBM has.
- Biggest strength: operating cost, organization, adding and finding service. Once you add a service, all services are on Bluemix, Bluemix is the service. Can link to Watson, GitHub, mobile, data management, analytics, security, etc.
- Research done on startups, when they use others like AWS, they need to maintain repository, source code, and all things, need to use other applications.

- It's like a one-stop shop.
 - Can add a bunch of different services. Helpful for backend developers when using front ends, or even vice versa. Can access all things IBM offers in catalog. More items and tracking and planning to help building diff things in the companies.
- 5. What additional features are desired?**
- Security, big data analytics.
 - Different parts of organization try to talk to Bluemix.
 - Even we integrate on the UI, the backend is still separate, need to be more integrated.
 - Need tracking planning, project management for organizations.
- 6. Who are some competitors in the industry?**
- Heroku, Azure, Amazon → they have to use a bunch of applications and tools to get them to work together
- 7. What are users' impressions of the relative strengths and weaknesses of the system as compared to the competition?**
- strength → one stop shop
 - weaknesses → new, users want functionality, major complaint → performance and lag
 - They don't think IBM as cloud?
 - AWS has market share. IBM has been terrible at marketing. People don't know. Terrible job at talking about it. More enterprise, big contract stuff.
- 8. What related inter-operating systems do they use?**
- Any differences between the community on Bluemix and the community on DeveloperWorks?
 - Simplify SharePoint (community structure).
 - Bluemix library only available to clients/companies who have existing relationship with IBM
 - DeveloperWorks team is more for Peer-to-peer
 - When you give developers direct access to the product development team, that's a big plus (competitive advantage). Providing sample code is another advantage that Bluemix has.
 - Bluemix UI development team. Feeding developers and IT people in to Bluemix and making instructional content.

User Interview Protocol

Note: Questions were added/ altered based on the interviewee's background and responses to other questions. However, these questions are standard across all users. Questions also vary for the stakeholder interview.

1. Background Questions

- Please give us a brief background of your current status/position.
- What is/was your major?
What year are you in school?
How many years have you been employed?

2. Problem Solving/ Learning Questions

- What are some common problems you encounter (everyday and in school/work)?
- How do you go about learning something new?
- What sparked your interest in programming?
- (If Applicable) Do you feel that you approach problems differently compared to other developers because of your background? If so, how do you feel the approaches are different?
- When will you ask someone for help and whom would you ask?

3. Technological/Internet Use Background Questions

- How comfortable are you with new technology?
- How do you adopt technology in general? Tell us about the last technology/software you adopted and how did you hear about it?
- What motivates you to choose one cloud technology over the other?
- What websites do you spend the most time on and what information are you looking for?
- Where do you go online to learn about software? Why? What kind of information do you look for?
- Did this ever happen with a cloud related application?

4. Personal Programming Questions (or if they run their own business)

- Do you write code outside of work? If so what are some examples?
- How much time do you usually spend developing your own projects (hours per week)?
- What kind of development do you do? What languages/technologies do you use? Why do you use these languages and/or technologies?
- Have you heard of Amazon Web Services (AWS)? What is your experience with it, if any?
- Have you done/ do you do any personal hosting? What is your experience?
- Do you use Wordpress? If so, when did you last use Wordpress?
- Please speak about some pain points involved in Wordpress. Can you tell us about a specific instance when you had trouble with Wordpress?
- What would be some ideal solutions to the problems mentioned in the previous question?

5. Team - Dynamic Related Questions

- How would you describe your current team dynamic? What job roles are represented?
- How do you communicate/collaborate with your teams?
- How do you solve conflicts between individual opinion and team opinion? Can you describe a specific instance(s)?
- Please describe the decision making process at your company (any type of decision, ie. adopting a new type of software)
- What is your role in this decision making process? What influence do you have? Please elaborate on this dynamic.

6. Job-Related Questions (Routine or Specific Occurrences)

- What is your current Job Role (Title)?
- What are some of your responsibilities?
- Can you describe the roles you've had within the past two years?
- What are the first tasks you do each morning?
- Primary task: What do you spend the most time doing as a part of your job?
- How would assign percentage of time spent on tasks during the day (60% coding, 20% testing, 10% administrative)?
- How about front-end vs. back end development?
- Describe a good (productive) day at work? When things are going well, what happens?
- When things are going very poorly, what happens?
- What tools do you use at work and what purposes do they serve?

7. IBM Bluemix/ Blogging Questions

- Do you use any IBM software/technology?
- Have you ever used IBM Bluemix? If so, what for? If not, why?
- What is your definition of “rapid web development?” (or mobile development, if more applicable)

User Interviews

User Interview: U-01 – February 5th, 2015

1. Background

Major: B.S. Computer Science, First year PHd student

-Year in school: 4 for undergrad, 1st year phd

-How many years have you been employed: 2.5 years after school (COMPANY, web developer), no internships before

-How many development jobs have you held: COMPANY was the first

2. Basic Behavioral Questions

What are some common problems you encounter?

RELATED TO WORK:

-doesn't know what he is working on b/c he has to come up with a research problem

-has to figure out where you research fits into the realm of research that EVERYONE is doing at the same time

HOW TO SOLVE:

-advisor, go on google scholar, literature reviews

-try and find out if someone has done what you're already doing

-COMPANY SPECIFIC: (overall chill environment): when it was a launch day, had to stay up all night and was delirious, no compromise in that situation... if its absolutely necessary he will stay up, if not will go to bed

How much of your time is spent problem solving?

-9 hours a day

-either he is working on research problem, homework problem, other's problems (Counseling), or his own problems

-counseling: leader at church for undergrads, a lot of time invested in that area

When will you ask someone for help and who would you ask?

-by nature don't like asking for help, self sufficient and independent

-how he was raised, parents are both professors (english wasn't that great)

-mentality: if you try hard enough long enough, you will find an answer (can be healthy and unhealthy... being self sufficient and independent isn't necessarily a virtue, and can make you be a little unrealistic)

-PERSONAL: if he's tried every exhaustible possibility then he'll ask, order

- older graduate student hes working with, his advisor
- doesn't like email, enjoys face to face because it takes a lot of effort to write an email with the amount of detail that you want... a lot of things lost in translation that you have to explain again... but if not, he will write a really long email
- PROFESSIONAL (COMPANY): doesnt know if he asked for help more than he indicated that he couldn't solve the problem because there weren't a lot of people he could turn to for help, they didn't have as much experience
- they would all try and come up with an alternative solution together

How do you go about learning something new?

- Example: You want to start using Ruby
- go to google and type in "Ruby Tutorials" and theres a website called "tryruby.org" and theres an interactive tutorial
- goes back and types it again, and found something called "codeschool.com" and found an intro course that was free
- asked friends and asked how they learnt it
- tried building a demo website from examples before making the actual product--currently says skills are beginner to intermediate
- did a senior project in undergrad and is going to use it for church website
- also STACK OVERFLOW

3. Technological/Internet Use Background Questions

How do you stay up to date on new technologies?

- RSS, Newsletter, friends
- when working at COMPANY, he was constantly searching for functionalities and always found other things that were trending and popular
- co workers would point him to new technologies
- now its harder, and doesn't keep up with it as much
- tried an RSS reader at one point, but doesnt really keep up with it

How comfortable are you with new technology?

- not a huge fan and reluctant to adopt and doesnt like the learning curve associated with it
- switching cost too high, time, energy ,effort to much
- there are situations when he's had to switch so that has taught him how to adjust
- COMPANY: PHP to Node.JS, motivation was because this is cool and upcoming and he thought the reason was bad, and he was forced to learn the new language

Is GitHub a primary resource to learn new technology?

- doesn't know if it's git or google, because never uses the search engine on an actual website
- determines the credibility based on how modern the website looks (flat UI)
- then goes to GitHub repository and sees how many stars
- these steps validate how good the technology is

What motivates you to go for one technology over the other?

- if it's what he needs AT THAT MOMENT, he will go for that new technology to fix a problem
- EXAMPLE: yahoo news digest app that he stumbled across recently, and it had App design award for 2014... downloaded it because he's been trying to find an effective way to read news... finds other news having a bad user interface and Yahoo news showed him one article in the morning and one in the evening
- if he finds something cool, he will think of the people it's relevant to and send them an email immediately or comes up in conversation (SHARES WITH PEOPLE)
- used to tweet, and then realized the people he knows don't use twitter (LIKES BEST FOR CONTENT SHARING)
- chance that it might get buried... but also wants to target his post to less people so that it's more personal which is why he likes email for sharing technology/ code
- only think from LinkedIn are recruiter emails that he doesn't really care about

What type of technology (device) do you use most often? Why?

- recently bought a macbook (because it is UNIX based), retina pro (last july) and was pc his whole life
- android phone, but is considering switching to iphone due to integration with laptop
- but uses mostly android applications so is a bit torn

How many hours per day do you spend on the Internet? Why?

- about 15 hours a day
- is always connected to email (HEAVY EMAIL USER)
- when at desk uses macbook and when not he uses phone to check email
- not huge on social media
- keeping up with people, logistical details, planning events
- google, GitHub, stack overflow, coding sites

What websites do you spend the most time on and what information are you looking for?

- google, GitHub, stack overflow, coding sites
- stack overflow: has the best content, is like yahoo answers but they're actually answers
- if he types in google and there's a stack overflow page, he will always go to that first

-gmail, google docs, google calendar (80% of usage for everything)

-PROFESSIONAL CONTEXT: about the same, not too different

Where do you go online to learn about software? Why? What kinds of information do you look for?

-for more traditional code (older technologies, C++ sometimes Java), its not good to use the internet → not enough information for old stuff like C++, learn in school and such

-new and upcoming, its definitely good to use

-COMPANY: technology was so new, four other people would find problems that they couldnt find solutions online, as they were fixing things they would find solutions

Where do you go online to buy/try out software? Why those sites?

-last time he bought physical software was microsoft office

-apps (generally doesnt like spending money on that kind of stuff, so avoids it when he can)

-for work or research will pay for cloud services

-COMPANY: had a lot of clout and say in what services were bought and could make it happen

-example: wants to build a feature, say uploading videos privately to server... researches a bunch of services their functionality and if it is easy to plug into their software, explains all the specs to his boss (price, how easy it is to integrate, why it is good)

-theyve had meetings where they discuss this information and was a lot of nitty gritty details at first because they didnt really understand who needed to know what

-fortunately they were all together so they could meet up and call flexible meetings

-OR, he would just not talk about it and wait until someone comes up to him and has questions about the new technology

-manager would say yes and it would happen later on

Did this ever happen with a cloud-related application?

-made a big switch to AWS (provides a platform for website to easily SCALABLE and handle any number of customers and is very TRUSTWORTHY) from Dreamhost (was already in place so didn't question it and it was cheap; some obscure hosting provider) when they had enough funding and realized that their scale (were getting way more users, one day it went from 100 users a day to 1000) was much larger

-EC2: you get your own computer in the data center and S3 (simple scalable storage) which you can access from any point in the world

How often do you use Cloud services?

-FilePicker: for upload tool

-Cloudinary: image processing

- Crocodoc: which was acquired by Box and they still use them
- had money and they figured if it was easier might as well use it

4. Personal Programming Questions

What software, languages and platforms do you use on a regular basis?

- most familiar with javascript because COMPANY switched and because for research he is using
- COMPANY: 99% javascript, and a layer on top called coffee script which is short hand java script
- uses JS, PHP, not Ruby really, except for church
- Tools** for development project: Different cloud services, Text editors, Node.js for backend.
- Managing different tools:
- Set up configuration files and refer to it when trying to find out where things are.
- There is fragmentation in terms of there are a lot of databases they have to attend to; and different services on their lists.
- How about a service that provides and integrates all the services:
- U1 believes companies that specialize are more trustworthy; services that do individual things and ones that integrate those individual things; two separate functions.

When did you use Wordpress?

- use it in COMPANY when they don't have developer bandwidth to make a site, people had content and they didn't want to code a site
- good balance of customizable and simplicity, you can tell that it's not a cookie cutter website and it's a simple enough interface
- has done private hosting on and on Wordpress servers

How did you teach yourself how to use Wordpress?

- main functionality such as choosing a theme didn't take much
- installing and figuring out how to host and use took some tinkering
- tried some things, their documentation to install was sufficient but installing plugins was determinate on the vendor so that was up in the air
- similar to other sites, he never used the search in Wordpress

Have you ever done any personal hosting?

- DIGITAL OCEAN (which has been around for years already) for personal hosting and found that the site was clean and useful (he also got a discount for hosting, like first five months free)
- support really good (responded within first three minutes)
- not convinced that it is sturdy enough that he would recommend to company and for a company's sake longevity is very important

-heard about it because his friend posted a referral link on Facebook and his friend texted him (did this two - three years ago)

For Company...

-cost is more important for money

-effort of trying to convince everyone to switch has to be worth it

-HUGE FACTOR: customer service support and durability and longevity of the product (there shouldn't even be a feeling that the product might go out at any moment)

Customer Service (Are you willing to join online community of product?)

-hes a complete consumer, 80% of people who looks up content and then steps away

-ONLY asks questions online communities in desperate situations (very rarely, 4 times in the past two years)

-would NOT post on the forum and customer service technicians are given canned responses

-would try emailing customer service center first but would definitely CALL

-is ok with live chat

Have you heard of AWS (Amazon Web Service)? What is your experience with it, if any?

U1 used it for his previous work and also for research project. He used it professionally when his company switched from a cheaper server to AWS for scaling up to multiple machines to easily deploy our application server to multiple machines. He uses it for research program for PHP and machine learning, testing distributive system. It's an easy way to test performance in different location.

If so, what feature(s) would you wish you had in AWS or a related cloud app platform?

-The flow: it is pretty simple because of the way it's designed. It is easy to use different machines and it is easy to stop.

-The danger: turning something off after turning it on, because it will keep charging one.

-The difficulty: it is not intuitive for the first timers, so one needs to get help from someone or read the instructions to get started.

-The design: Amazon does not care about that kind of thing, only cares about functionality; it is not beautiful aesthetically but it gets the job done. It is not the most straightforward thing but it is usable.

5. Team - Dynamic Related Questions

Please tell us about your current team dynamic.

TEAM work is difficult→ need more follow up

-him and one other developer and later on, various third people would come in and out

-currently there are six to seven people

How do you solve conflicts between individual and team opinions?

-depends on the context of who is in the group... a lot of CS people are passive

-he can play a role of being proactive because when he acts they always say

6. IBM Bluemix/Blogging Questions

Do you use any IBM software/technology?

-no that he knows of, there could be software owned by IBM that he doesn't know of (this is inclusive in COMPANY)

What is your definition of “rapid web development?” (or mobile development if more applicable)

-“Having a framework that is out of the box, ready to go, you download it, you run it. As soon as possible you can get started working on the functionality of the application versus administrative function or server set up, which is really painful.

What specific features of software would meet your criteria of what is considered “rapid web development?”

-U1 uses Ruby on Rails, Node.js, and Ruby on Rails to fulfill this need, KPHP. There are spectrum from more configurable (Node.js) to more conventional (Ruby). Conventional needs to read more documentation but then easier to handle. Node.js does not have a structure in it; need to figure it out the hard way though. U1 made a huge jump in the company from KPHP to Node.js.

-Criteria of rapid web development tools:

-Easily integrable with whatever languages being used. Easy: people don't have to do all the configurations, and figure stuff out.

-It provides a place for deploying web services; provides a URL really fast.

-Must be able to give feedback → highlighted codes being typed?

How do you feel about integrating wizards into web development?

-Don't mind the wizard so long it produces things as simply as possible and according to most modern conventions.

-Hesitancy: usually not updated well and produces crappy codes.

-Code quality is important too. → for his company

-Need to make sure when hiring new people they can read and understand the codes, and operate and get on board quickly developing. But if it writes crappy codes, they can't follow it.

-Generally skeptical due to crappy codes.

User Interview: U-02 – February 13th, 2015

1. Background Questions

- Education: Bachelor of Arts in History from Ohio University, graduated in 2004.
- IT-specific education:
 - Took a couple semesters of programming in high school → only “meaningful” formal programming lessons
 - Took 2 programming in courses but not helping much
 - Mostly asking people for help or going on Google or online resources
- User has been working as a professional programmer since 2009, for 6 years. User did dozens of programming freelancing. There are only 3 companies which user has worked for more than a few weeks at

2. Problem Solving/ Learning Questions

- When he tried programming in high school and college, he found interest in it. In college, he somewhat drifted away from it, however, during the recession in 2008-2009 it was hard to get a job, he became aware that programming is one of the few career users with opportunity.
- User’s comfort with technology is “somewhere in the middle”. Although he tries to keep up-to-date with relevant technologies to ‘be aware’, he is not an early adopter because he prefers to only use new technologies that are already beta-tested by other people, so already seasoned and ready without plenty of bugs.
- User stays up to date by going to nearby IT conferences, and by reading articles online. Anecdote: One time he went to “Code Mash” and he saw people use slides.com for presentation, then he started trying it out. Therefore he said he is “open minded and not a sceptic”.
- User started using Ruby on Rails 2 years ago, just started using Angular JS recently, but has not been able to use the latter in a project yet.
- Most important: How fun it is to develop matters to him. Rails is easy to develop because it does not require weird and difficult queries like JavaScript and does not require lots of memorization like PHP.
- Scalability, what hosting needed, among others.

3. Technological/Internet Use Background Questions

- User uses a Toshiba Windows Laptop, and a Nexus 5 Android smartphone. He only has a few apps on his laptop and phone. He said most developers use Macs.

- User spends 6-7 hours a day on the internet, for work and other things.
- User finds information using Google. He also goes on Twitter as additional resource, by following friends and following people who are experienced developers working on fields of his interests; he likes to see what they are tweeting about.
- User is part of Ann Arbor Ruby on Rails Group.
- He tries to go to physical group meetings in Ann Arbor through meetups.com. He goes 1-2 a week.
- He also uses CodeSchool, Udacity, Coursera Database Course for learning new software.
- User usually does not buy new software, he said he is “an open-source type of guy”. Though, he bought license for Sublime Text recently for \$50 (this is not a big amount of money in his definition of software license price). For Ruby on Rails, he uses Linux OS, there is no paid services needed. Microsoft Developers have to pay for licenses and installed softwares.

4. Personal Programming Questions *(or if they run their own business)*

- He is working on a startup in his free time. The progress is not as steady. He is the only developer, there is another person doing application design.
- Devoted 10-20 hours to his startup.
- User organizes ‘groupie group’ and a meetup group.
- User helps out with social media for a bar.
- User does graphic design and web design for freelance projects, recently toledotech.com
- When user was freelancing, most of his work involves: custom WordPress theme, creating mockups, Photoshop work, and graphic design-related. Since this past year, the work is more web development side, especially Ruby on Rails.
- Problems faced professionally:
 - People (including clients) who are not used to with programming don’t understand what is needed in the process.
 - Procrastinating
 - Not managing to do enough for project
 - Stubborn co-worker. There was a co-worker who was persistent on using JavaScript instead of staying with Ruby on Rails, too focused on minor tuning of things while they were just making an MVP (minimum viable product).
- How does user get help:
 - User uses Google heavily. User also ‘fires up’ emails to people whom he thinks would have an answer. The project manager at his company is very helpful too. Though, since he works remotely,

he can't just go to the person next to him or the next room. He thinks it would be easier if he could work regularly onsite.

-User worked at a startup in Ann Arbor for some time in 2014. He worked both remotely and onsite, with more in-office time compared with presently, therefore he could ask help from co-workers and his project manager then.

-Cloud Services:

-GitHub: user uses it for 'toy projects' or personal projects. He does not have to manage open-source projects so much for his current employment. GitHub to him is helpful for showing codes to others.

-AWS: user does not use Amazon Web Services much because he does not want to get involved in server-admin type thing. He just wants to be coding.

-User uses Git, GitHub. Also he uses Google Drive for sharing documents and DropBox for accessible storage. His company uses project management software CashPort (time tracking) and RedMine for project management, which are free tools.

-Wordpress:

-He still does custom-themed WordPress projects. The music thing in Toledo. He does not have a specific project outside of that at the moment. Personal thought: WordPress is great if one wants to make small business website and blog without much functionality. WordPress is not for making big web applications, 20 plugins and such. Usability perspective is great to send WordPress site where people can use on their own without asking for much help. For code based its problematic, can cause bugs if it becomes a major web application.

-Ruby on Rails is great for making more complicated web apps.

-Ecommerce may not want to use WordPress unless for a few items, not a good one.

-He teaches himself WordPress through a lot of googling, the documentations official was not good. Learning as he went. He felt he could have learned more in the beginning to save time. Books are mostly from admin perspective, not helpful. Rails has much more good resources, rails guys online provide good tutorials and free articles, and conferences. Ruby better than PHP and WordPress.

-PHP the language is scatter rain, cannot really learn it, just memorizing. Ruby can kind of sink in and to see user terms for help.

5. Team - Dynamic Related Questions

-User is not working in a team environment for the most part. Though, it depends on what project is being worked on. Occasionally, there are test run sessions where user will be requested to participate in initial test runs.

- User does not have a formal job title.
- He does not review codes now, but he did for his previous job, go through codes from coworkers.
- PM is still very involved in the development, but more project management now. PM reviews codes, make improvements, and tell user what PM reviewed. It is nice for user that his PM is expert coder (although he said not necessary), somebody who can understand the intersection of tech requirements and business needs.
- He uses emails and google hangout to communicate with the team, and the project management tool to leave comments and issues.
- Obstacles and communication barriers: having to wait to hear back from people with email, video chatting sometimes don't work for some reasons.
- Project manager decides what technology the company uses and hosting solutions. PM does not consult with user. Boss is willing to listen to User or other people though.
- Startup he worked in the past, the CEO is not tech guy. The project manager is the CTO, mainly involved in deciding hosting solutions and technology, have to deal with HIPA since healthcare related. He was main decision-maker but also there is another guy involved in decision-making. Startups and smaller companies not much hierarchy. User does not aspire to get into decision-making. He just wants to code. He does not like high stress environment.
- His current company has "new projects coming in" type. So if he wants implement new technology, has to roll it out in the new projects. If they start using new languages suddenly, he may choose to find a new job after trying to educate himself into it, unless the expectation is unreal like having to use his own time so much to learn about it.

6. Job-Related Questions (Routine or Specific Occurrences)

- User is currently a Ruby on Rails contract developer at a small web development firm of 9 people. But he is expecting to be employed full time sometime in the future. This is closer to a regular job compared to his past gigs.
- User does not work a set number of hours a week. He works mostly remotely, attending meetings '1-2 times a month'.
- User's project manager / superior is an experienced developer. User appreciates having a 'technical' project manager.
- User communicates with his project manager / firm mostly through Video conference platforms such as Google Hangout. During regular meetings, he would be presenting progress report about his tasks. PM would be asking questions about various aspects of the user's work, including providing suggested changes and technical issue resolutions.

-User has no say (or very minimum contribution) to the project planning, including to the planning of the user's assignments, especially since he is still a contract employee. PM is the lead developer at the company and is an experienced developer. PM has other more suitable people to consult with about project planning and technical issues.

-He does some front end HTML, CSS, and basic JavaScript, he is not especially good with libraries.

-Productive day at work → if he can get development work issues resolved and if he can know that he does not have anything hanging over his head and at the end of work day he can take a rest watch movie etc.

-He is much more focused on what he can get done, how much progress he can get done for customer in the day. The customer is the firm's customers but he wants to make himself look good in front of the firm

-Used at work: Ruby Rails, HTML, CSS, sometimes WordPress for non-profits and smaller gigs. He was part of GiftCamp ann arbor, developers and designers making websites for different non-profits. Used to use PHP as well. Ruby deployment is slightly more complicated and expensive

7. IBM Bluemix/Blogging Questions

IBM technologies: He never uses IBM technology installed or download. He uses indirectly like through Linux. He has been part of mailing list, Twitter, GitHub online communities where to share and learn, but not much, and he prefers more face-to-face group. Reddit, he uses once in a while, programming sub-reddit.

User Interview: U-03 – February 16th, 2015

1. Background Information

Educational background:

BSE - Electrical Engineering UM

BA from Rensselaer Polytechnic

Self-employed for 35 years (*I think he said 15 years*)

web development, database and online database product. Consult. Fortune 500 product. Clever ways of enhancing. Teach Cryptology at Davenport.

Worked for GM, Schlumberger.

Technical, Marketing roles. He is 55

2. Problem Solving/ Learning Questions

What are some common problems you encounter?

-Multidisciplinary, cross-trained, have done everything.

Scholarship for undergraduate -GM

-employers paid for grad degrees. Many training classes, meetups.

-Much into staying current.

How do you go about learning something new?

-pick new things to learn, e.g. technical meetups, android, local meetup, find blogs and articles and goggles → javascript meetup for instance (100 ish, kids grown up and out of school)

-not only related to work

-Microsoft meetups

-In order to network and learn new things → since he work from home

- feedly, StackOverflow reddit, news, accombnator, and listen to podcast, and listen to security now, tech. Meet ups, news, Microsoft magazine, and code magazine,

What is your approach to solving problems?

-treasure trove of tips and tricks -- list of notes. he usually just work on patches of codes for his project not the whole. start from snippet of code, reusing codes. He made the tips and tricks list. all come from work.

- barely ask questions

-GitHub, StackOverflow when he is stumped. He would ask questions anonymously.

-His technique: boil down to the smallest possible problems that are relevant to the concepts. People want to help with the detailed problems. He declutters things, and go to the smallest problems that

demonstrate the piece of code that is problematic. when he asks question he always boil down. people sometimes boil down on unimportant details.

When will you ask someone for help, and whom will you ask?

-Prefer online. Google keywords, google documenting, six degree of baken, follow their twitter feeds, good at finding stuffs

3. Technological/Internet Use Background Questions

Tell us about the last technology/ software you adopted, and how did you hear about it?

-Jquery library. uses it extensively.

- He learned the new JavaScript extension, google alerts.

-he sought out meetups. Comes with questions to ask. He immerse himself in any aveue possible.

-First read, then meetups, then ask online discussion. But first foremost he google search, follow twitter feed, expert-level searching. Primary resource: Google, Internet.

What motivates you to choose one technology over the other?

(laughing heavily) He uses Android usually. He uses Laptop, PC / Linux, multi screen. Device → cheap. Generational.

How many hours per day do you spend on the Internet? Why?

-12 hours or more. Work at home 6 hours of uninterrupted on tours, 1 hours sprints. The rest is emails.

-Websites: mostly StackOverflow (after Google), would go all over place. He would go StackOverflow for minor problems, easy to find answers.

Where do you go online to buy/try software?

(Er...., touching faces) online learning things, coursera. Took cryptology courses. Lynda.com.

Coursera → top notch. (Hesitation) Dan Bowen from Stanford for Cryptology, best presenters and best materials, UM participate in that too. Only lectures, not homeworks or discussion.

How much the interface plays a role for your decision of website?

StackOverflow, search engine, online code links to GitHub, doesn't matter.

For the videos, having a point to left off. 16 different points. Download videos. A downloader, not sure if it's legal.

Ease of use is really important. Self-container, rapid, accessible. Time is more pressure.

-UI → textual, he doesn't care much for like coursera. Ease of access, time is more important than about anything else. Self-contained, rapidly locatable speed of information. → time is very precious.

Least mental frictions don't have to remember things just to do simple operations. He prefers

having control, but simplicity. He does not like having wizards that ask you many types of questions. He likes intelligent defaults and easy ways to customize things. Microsoft way is confusing.
-Just started mobile app dev → Android. Made little things, like Raspberry Pi.

-Internet things intrigue him more than mobile.

How often do you use cloud services?

(Blurr) -He uses cloud services everyday:

-GitHub

-proprietary databases

-Linters

JS Fiddles. → simple interfaces, self contained solutions, although keep adding stuff and features.

What features do you look for in cloud services?

never been to Amazon cloud service, lots of traps. He likes things that are very simple. The Linters is one of them.

What tech decision making: good, simple, state-contained, clearly stated assumptions, not much assumption

How comfortable are you with new technology?

set goals to learn

stuff he knows, he goal to learn in particular areas. he cant read fine print anymore

scarceness of resource. there is so much technology, so many adequate options for software

component. How to allocate resource so that not make bad decisions. It's dealing with multitude of options and assessing them.

(In my age, I can't read fine print. But when I was young, there were many resources and learnt computers in high school, But today there are so many technology and in reality, how can u invest resources and don't make bad decisions, e.g. js, which one to invest in, bz history and so many technology is shifting. Confusion of technology.)

desktop engineering for scientific software.. read widely.

Could you describe your Job?

-Owner, Consultant, Developer → customize interface to do extra stuff, tricky JavaScript stuff, enhance things in ways that are probably not envisioned. Integration type of tasks. Same origin policies → security prevents us to put things from one site to another without API; tricky JavaScript.

-database product → by intuit. most cloud app work on their stack. ski resort wanna look at various weather information, find a way to get the information from one site (w.u) to a forum in a click of the button. API and integration. not intended to work 1. only finite numbers of tricks to do same origin policy, yahoo query language, core technical problem to get around, which one works or

easiest? they want some integration . many small, short, day or week long projects, may go for months, must go to next meetings.

4. Personal Programming Questions *(or if they run their own business)*

Have you used Wordpress before?

-The design is more important for the website than coding. Over years I come to appreciate it's the design is more important than coding. The design that ppl buy. Get artist on Wordpress. She spent one week in one details. Website for her podcast. Better features of products. Designers to figure out.

-He spends weeks to tweak things despite knowing CSS inside out. To get it look attractive Better features in the product → does it help designers work on Wordpress.

-He is talking as developer.

When do you use Wordpress?

He has configured some blogs. First thing, once a wordpress site is put up, robot takes over. It is painful to tag people and stuff on Wordpress, if any tools to do that more productively. Nothing on Wordpress itself that does that. Making design easier and management of the site easier, especially when there is large body of site. Features we need can get easily what we want for Wordpress.

Components for all that.

Have you heard of Amazon Web Services (AWS)? What is your experience with it, if any?

-all these cloud services only issue is security side some companies don't want to store the data on the cloud. e.g. healthcare.

-AWS → not proficient , begrudging with it, only 1 client. Fast, pay for what we use. Amazon client-side. The security issue → company don't want to store data in the cloud no matter what. core of their business. they want to store in their own machines. Design → needs to learn their terminology, that's long learning curve. Integrating cloud service and our own site, really complicated login process and credentialing really complicated. Box, 7 logins and security code. Authentication so cumbersome. Session tokens, streamline, and wizard that would be good, especially if gonna use it for API.

How did you teach yourself how to use Wordpress?

-Wordpress Meetings in Ann Arbor, go to Wordpress site, no shortage of resources for this, go to meetups. slide sharing services. most people don't want to plow through to research. He is an expert google research.

Wordpress meetups.

-DeveloperWorks → html5, php framework → it didn't work, good articles (just like StackOverflow) → open source.

Do you have any experience designing or developing content management systems (CMS)?

-Drupal CMS

-went through 5-6 version.

-big ecosystem

-longer learning curve

-hosting can be a problem unless using hosted solutions (others do drupals for you and manage the updates. He tried installing drupal on dreamhost and then didn't work because didn't support it.

5. Team - Dynamic Related Questions

How do you solve communication problems with non-technical clients?

He sends a sheet of terms and such nomenclatures prior to meeting, give him common vocabs. client thinks differently to how developers think. If get someone who's technical, lucky.

How do you make a strong impact on clients?

-Versatility, recognizing common patterns, clients give craziest stuff, making sense of it. Having some templates to work with. Most work → databases and form interfaces type stuff. Customers don't understand databases at all. They are talking about totally different languages. Forms designs → html, usually they show him how it works, pull up websites that look similar to what he wants to show customers. Prefers customers give him options.

-Screensharing conference with someone is important → join.me. very important to show them visually. Never had in-person clients in this season. Clients in different time zone, crazy hours.

How would you describe your current team dynamic?

- Team dynamics → Used to work in company doing physics. Unix environment, workstation, scientific environment. Had their own custom preprocessors and development environment → 15 years ago. Today, source code repository like GitHub & CSV. No team environment recently.

- Maybe except Code Michigan → use whatever tools teammates are using (this is brief)
Years ago no software from today.

Please describe your development environment. What is it like?

- Generally forbid client's team members from touching codes → so they don't cause conflicts in the codes. He has his own mechanism of keeping codes. The live source code is in the forums, so he doesn't want them to touch it.

- He got third world countries developers taking his codes and then ask questions to him, and then compete with him. JavaScript → but big learning curve from old procedural to asynchronous javascript that's new, so its safe even if answers the questions.

- Software product → more features have to be put in in the software product to adapt to what is current, and most important to what is coming, because the rate of coming is at vicious rate.

Companies are not set to adapt to such rapid change.

6. Job-Related Questions (Routine or Specific Occurrences)

What are the first tasks you do each morning for work?

(blurring) not waiting for any phone calls, have a clear period of time, break it up, work in sprints.

-Pick up where he lefts off, work in sprint for an hour (get into flow state). He works in 1 hour sprints. everything has to be in order, don't have to pick up phone calls, and stuff interruptions. 6 in a course of full days.

What tools do you use at work?

-code snippets, tools, resources, procedures he use, write quick script to automate something. if do something once may do it again. big repository of solutions. have little database, search it for keyword, API commands how do it next time building up a little knowledge base, and resources he used, notes → a decade long or more, they are all texts. Some API are infrequently updated, he put margin notes about things that he discover. He's run scripts with keywords, run with concordances.

-Most of the time spent on talking to clients, they ask him to send samples of things.

One worked a database of a small office 15 years ago, he learned how to do it in seminar, is to copy everything, 1 physical sample of everything. then start analyzing it on whiteboard or paper how the information flows. And see how the physical interpretation. See it in diagram. Clients have to give him a sample what they are actually dealing with, not based on what they say. Customers are largely non-technical, or technical but not there yet. They don't give right database terms. He makes his own assessment.

Describe a good (productive) day at work? When things are going well, what happens?

Productive: if developing new techniques, usually developed for his own repertoire. client-side lots of constraints, have to make generic techniques on his own for the clients, open broad classes of things. sometimes spend time researching difficult problems, if get it, happy day. If get a problem → can we do it across the browsers or the one clients are using? sometimes extraordinarily difficult, can't work in IE, when client asks "can you do it in all browsers?"

When things are going very poorly, what happens?

- Synopsi → company in computer engineering field.(heads down) they want to integrate their own internal document library. (hmmm) there are certain possible non-disclosure, they have security restrictions. certain possible solutions but can't because they are not at the level of security of website. Getting a feature works on cross-browsers, IE is always the problem. Longstanding bug in Chrome. His project: one bug didn't work in his client's company's configuration, but works for him and the client's personal comp separately.

- Sometimes trying to identify one bug is very difficult.

- Testing can be very difficult → work in remote environment. If clients have development checklist and fact check would be good. Can't do easily over the phone. things go bad. Testing → mostly through phones. Many times forget one detail or something. Mostly because he works on small projects.

7. IBM Bluemix/Blogging Questions

Do you use any IBM software/technology?

-IBM is big on it on framework, I just block on it. Work on for project. I did the work. HTML they put on attributes on it. No greate experience with IBM product, example.com I use ibm.com to test some codings.

User Interview: U-04 – February 16th, 2015

1. Background

-Major:

-Year in school: community college (mechanical design, applied science and networking administration) and franklin university(digital communication BS)

-How many years have you been employed:

-Current Job: Webmaster at Owens Community College

2. Problem Solving/Learning Questions

What sparked your interest in programming?

-marketing need (web had evolved and was frustrated with lack of investment from traditional advertising)

-taught himself HTML and CSS and JS (could make more money working for someone else)

-server maintenance, updating of webpages, consulting on the side (internet marketing consulting)

-consult with business for their needs, search engine optimization, getting them into social media

- small companies to large companies, informatics research and some paper work, it ranges, most in South Michigan area, others in Philadelphia area, they have consulting area around the world.

-(Hate java, php, don't like programming, tend to focus on social part, ui/ux, people, hate English, German is much easier to understand, different skills to work together)

3. Technological/Internet Use Background Questions

What is experience at current job?

Q: How is the working experience with your team? k

Work as a team, also great deal of autonomy, but they will interact as needed

-three webmasters (no hierarchy), they all rely on each other for assistance

-one is a programmer, more server side (logical code, php, js, html, css)

-one is more a content expert (technical writer)

-he is the UX/UI guy, more expert on how people think

-all report to supervisor who is an administrator and is basically there for a hierarchical aspect and is responsible for a number of other areas in the department (they're just a fraction of his reports)

Specific Conflict/Resolution: they take federal funding and they have to make sure content is approved

- had a provost who wanted to do something fancy but it didnt really add to the value of the content
- he had to let them know that this could put the college in jeopardy of a lawsuit
- had to educate the provost that what he was proposing was not acceptable
- have to make a good case about why you cant do something and come up with a solution

How did you get into Wordpress?

- been ten years
- been working with Wordpress since 1.7 version
- started looking at other blogging/ CMS platforms (drupal)
- googled, read as much as he could get
- didnt have an opinion of drupal VS wordpress VS jumla
- liked the Wordpress interface because it was more intuitive and from a technical standpoint didn't see a lot of differences
- drupal seemed more silly and more complicated than necessary

HOW THEY USE WORDPRESS AT WORK

- 3-5 press releases per day and they realized that they were copying format over and over again and turned to Wordpress to streamline this process
- played around with stock themes
- got the core bits of php out of themes and embedded into the college's current pages
- created his own theme using standard wordpress bits
- current events, news,
- changes were when wordpress changed (some features changed across versions) and allowed them to do certain features easier

-evolved from just a blogging platform and they evolved with it

- they did to a bulletin board which was similar to a blog
- use JSON to grab content from page and input it into non-Wordpress website
- allows people to have a CMS without having too much investment

What products/systems do you use in conjunction with Wordpress?

- they try and keep it plain
- if there is a plugin they hack, they would have only updated it once
- fix the code, we saw "oh that one we know, and fix it."
- one child seed running on news-release site because they had to go and give content provider new tools (what he was asking for wasn't in old theme)
- created child so that main theme was still itself and so that any updates wouldn't cause headaches
- don't use any outside service, CDNA

-their own with very minor editing

-dont touch the what? the core?

What other programs/ services do you use at work?

-hadn't heard of Bluemix until we recruited him

-recently adopted CAST ties in with LDAP ← only outside services the company uses that he can think of... for authentication and password management

-regard of old plug in.

-use blackboard which is their learning management system

-Banner: basic database of everything

-PeopleSoft:

-Student Portal that integrates the website to Banner to Blackboard (that even has an integration of a Wordpress feed coming into it)

-Wordpress is its own siloh coming into other things and not really depending on its own services

- Why put stuffs and doesn't pertain, straightline, employees' stuff is over one side, really straight line, and find things directly. e.g. password protected, "red" vs "green" color.

How do you stay up to date on new technologies?

-A lot of reading, surfing the web

-Follows people on Twitter

-news feeds, reading a lot of chronical of higher education that has a technology section

-curios so looks at other things

-opportunities to go conferences virtual or physical ones (tight with budget but has been to several on CSS, web, surfing around)

How do you adopt technology in general? Tell us about the last technology/ software you adopted and how did you hear about it?

-contextual

-google is best friend for digging around

-doesn't deal much with Banner but they have a huge Banner library on their server

-huge online community for Wordpress

-Wordpress.org is where he'll go and look for a lot of information first

Are you a part of any communities?

-member of Wordpress.org, has contributed a little here and there but not much

-part of the Sakai company

-Eportfolio that he was helping implement... was terrible. around 2005-2006 it sucked and they needed it for a federal grant

- only reason they had Sakai was for the portfolio
- technical issues with connectivity and number of concurrent connections, students didn't like using it because of poor user interface
- three year grant and by two years into it, everyone wanted it to go away
- the outcome was that they met the requirements of the grant, but a lot of unnecessary manual work was done
- was on the cutting edge of an immature project... wasn't really fulfilled because of bad UI, technical problems that people couldn't really figure out, was hosted in Ohio State, couldn't get it work like promise
- They had a developer from Syracuse and they found a HUGE bug in the XML and decided to drop the project-(open source portfolio, Ohio Community) was an online community where they had monthly meetings/ conferencing where they talked about their problems
- built a resume uploading software for them
- bad interfaces, bad database, bad servers. assuming today Sakai is better than before, commercial one and a beta version as a trail, has Sakai as the initial one. The revenue generation one. Political issue. C
- had Epsilon initially

4. Team - Dynamic Related Questions

Is GitHub a primary resource to learn new technology?

- a little bit, not a whole lot
- just something he bumps into when on a search route
- GitHub, stash but that's just one of the results he comes up with in search

What motivates you to go for one cloud technology over the other?

- not really going in the cloud direction for work
- they have a nice data center and good recovery system
- put millions into renovating the entire data center
- were using adaptive which is a product management that is service based (political discontinuation)
- stash and git
- Blackboard is hosted outside of the college (Saas for them)
- Customer relationship management software that is a Saas product
- some but not a lot
- used Razors edge for alumni
- use another one among administrators

What websites do you spend the most time on and what information are you looking for?

gmail

google

College's website

uses bing as well depending on the outcome of the search

Bin, Yahoo

Russian search engine

Docdoc go, bagel -> before not search dominance, doc piles

Even Archie and Veronica which was on TelNet

I have to do lots of tracking down, and references. Contacting lots of ppl, speaking German is easy, other lgg is hard. Researching out to diff identities. Lots of search engine, google.ca, etc. Non us ip have diff resources as well.

Where do you go online to buy/try out software? Why those sites?

-recently been looking for an alternative text editor (mac VS pc)

-uses an old one currently that is PC only (homesite, stopped being supported 2005, bought by adobe)

-fussy on user interface for Sublime because he likes massive search and replace

5. Job-Related Questions (Routine or Specific Occurrences)

What is your experience at your current job?

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-had to educate the provost that what he was proposing was not acceptable

-have to make a good case about why you can't do something and come up with a solution

What are some pain points involved in using Wordpress?

- wants a better interface for text editing
- when he says go paste in some HTML, he doesn't want Wordpress to change some of that
- some of it strips interface and paragraph handling
- interface handling isn't that good
- wants better photo editing tools
- greater degree of role management (more complicated layering)
- plug in, user privilege, at more native level instead of plug-in: bz plug-in works in a period, but in a year the wordpress may change the version and suddenly your plugin doesn't work, and developers may not as good as you thought, and there are security issues, these changes of products, you pay for open sources even though they are free.
- best of open source (its free) → have to rely on a lot of other people to make sure that you are making the right choices for yourself
- looks at ratings, when last updated
- couple security sites that tell him if plugin is at risk (Bluehost told him about a plugin that had been installed but not updated in a very long time)
- better quality build and help for the user
- owners manual and contextual help
- how to do basic things when you own a wordpress site to manage the site so that he doesn't get bothered
- better interfaces, better customer services

Have you ever had to work under a time constraint/ rapid development?

- used Wordpress to solve that problem
- publishes it in the same box, selectively does a search and replace of the things that don't need to be there
- doesn't work well with dynamic forms, but just for presentations its a good way (more informational sites)
- used Wordpress for press releases
- here's the new **self-publishing tool** and here's how to use it (publish by email by forwarding to a Wordpress site), e.g. put child care into the self-publishing tool and don't need to pay attention
- there are things in wordpress that if you had to hand code out would take a lot more time
- considers Wordpress to be a full blown CMS (while others consider it still blogging)

- Wordpress called theme that considers itself a framework (once you have a site completely configured on GUI, you can configure everything to a text file and exporting to css, and make css into piles, and back up files, pace the files and don't need to check details of the css, I see this thesis before, but I hate thesis, another guy in Chicago is working on this, commercial value in that)
- end up having a catalog of all the examples that he can create
- mature platform where he can create quick and reliable changes
- getting an infinite number of themes without change the theme
- framework that makes a big difference

How often do you use cloud services?

- uses google drive occasionally thats about it
- have a fairly robust setup as far as backup of data when there is an emergency
- pretty invested in static setup instead of cloud
- troubles when they take data offsite, then who does it belong to?
- typically where they have seen adoption to cloud is where there isn't any personally identifiable information
- don't ever see them putting student information on the cloud because of various reasons (it involves their security and personal information)

6. IBM Bluemix/Blogging Questions

Personal preference for devices?

at home use PC for development, small mac devices, ipad for mobile testing, laptop for surfing, the dashboard within wordpress is much better now so I can use IPAD to do work on wordpress, I most comfortable with PC, with changes to apple, "where is the power swich, I can't find it". Apple is not so different, e.g. ps. just more familiarity, and hp keyboard to mac keyboard, more practical, small diff in user interface, mac lasers verse pc and windows. Nothing really make me prefer, I will choose PC bz of more familiarity. Display of Mac is better and interface. Wearing glass when using PC but don't need glasses using Mac. I can;t convenice my boss to spent moeny on monitor.

Best features of Wordpress?

- very extensible. can do anything on wordpress.
- stable, doesn't crash.
- user friendly, learning curves is low.
- Good user interface.
- Not so many diff in adopting it.
- Lots of websites are running on wordpress.

-Open sources is a big factor for me.

- rely on ppl who are good php, make make a website with ppl good at php, js.

- I just need to know how to use it, can figure it out.

Next website will be very goal orientated, mail jump and customized. We will doing internet marketing using email.

-Use wordpress bz there are several forms to work on.

- e.g. wordpress ecommerce site, go to third party, and connect them through plug in, and add to my shopping cart, the plug-in is mainly for the third party services. With plug-in, I can do anything.

User Interview: U-05 – February 18th, 2015

1. Problem Solving/Learning Questions

What are some problems you encounter?

- time related, not having enough time to complete things
- communications related, not getting messages from other people and vice versa
- interpersonal (the further apart people are, the more friction there is)
- burnout: technology can be a high paced environment (especially in startup) that can wear on a lot of people... still a pretty high turnover

How do you solve them?

- hard work, discipline, and luck
- in terms of education, want to be around the right people
- solving communication is a little harder because there are people from a variety of backgrounds and everyone has different styles
- takes working at it and consistent reiteration and evaluation
- for interpersonal: its a matter of priorities (has to be a sense of balance, and prioritizing the right relationships)
- for burning out, need to know where your limits are and communicate those (want a good work-life balance)
- ex: someone really wanted to pursue hardware and wanted to leave team, but the company had to adjust because they wanted him to be happy

How do you connect across disciplines?

- haven't really cracked the code on that
- company culture is helpful, very few walls, want to keep everything open
- working on a communication triage: urgent (phone call), response within couple of hours (group chat → slack), 2 hours (text), more than a day (email)
- using the technology that is there to facilitate communication
- flood of emails was a problem, this causes people to become strained

How much of your time is spent problem solving?

- probably all of it
- besides time just spend chatting and catching up

How do you go about learning something new?

- google
- have some friends in the industry

- read consistently (on a higher level for the company)
- socializing an idea (how an idea will float within certain circles... how does a certain group pick up on an idea)
- asking for help is something that was ingrained in growing up and wants to find solutions on his own
- stack exchange (stack overflow, maybe quora), verizon forum (knew that he would find comcast employees there who were more technical)

What sparked your interest in programming?

- school
- video production after college, wanted to go freelance and couldn't find work
- decided to apply for jobs doing "web stuff"(front-end, HTML, flash)
- realized there was a lot of potential for change and using technology
- after going through these jobs for 5-6 years, learned a lot about technology and its impact

Do you feel that your approach to problem solving is different than other developers due to your background?

- approach to project management is more traditional
- under the impression that there is a lot of push for agile development (what current CS students get)
- didn't have scrums because projects were longer

If you need to ask someone for help, who would you ask?

- if related to programming, co workers solve 98% of the problems
- javascript meetups in downtown ann arbor once a month for any extra help
- people really value documentation and leave breadcrumbs for other people
- because of that, able to find help when we need it... calling someone personally has been less of an occurrence

2. Technological/Internet Use Background Questions

How comfortable are you with new technology?

- so massive, don't even know where to start sometimes
- hard to be comfortable with it sometimes
- the more you know, the more you know you don't really know anything

How do you stay up to date on new technologies?

- don't really keep up
- hacker news... talks to co workers

-email newsletters (design place that specializes in front end)

What was the last technology you adopted and how did you hear about it?

-Docker (first from co workers) - way of breaking up tasks on servers into their own isolated environments → multiple server environment → find information about it. memory efficient.space efficient and CPU efficient. uses shared file system where they can they run various operating systems on one file (good for running very large jobs)

-google borg (their search runs against this model)

-adopting that: had to give time and take an experiment (best way to learn a technology is to do a project with it)

-good resources on it

Have you used cloud services before?

-if they hear about it, they have to try it and see if it will add to flow

-if it solves a problem that they have and adds value (that motivates them to use it)

-motivation? → hear about something, not quite an early adopter can be convinced by someone else

What kind of technology do you use most?

-he has a PC, most of them use MAC

-android

-no tablet because not very mobile

Which websites do you use most?

-osana, trillo, gmail, google, stack, gcal, GitHub, restaurant sites

How many hours a day do you spend on the Internet?

-12-13 hours

-on the internet all day at work (but tries to have periods where he doesn't do anything, lunch, dinner, when going out with friends)

Where do you go online to learn about new software?

-hackernews

-google

Do you use videos to learn new software?

-doesnt like them

-feels he can ingest information faster if he just reads it

-only if he cant figure things out, more of a last resort

-home repairs however, he really likes videos because its much more spatial in nature

When you first install software, are you going to read instructions?

-yes, definitely

- amazon and google are notorious for having bad documentation
- web services is really complicated unless you have detailed knowledge

Do you ever buy software online?

- generally buy services
- rare that they just buy a software package
- they'll pay for hosting

How do you determine which services to buy?

- experimentation
- once they establish that theres a need, then they put in the time
- they'll all be cloud-based services

Any concerns with cloud based services?

- a little bit, but try and backfill with things they can deal with
- security, data security
- data loss
- generally try and have backups

3. Personal Programming Questions

How do you choose tools for web development (software, language, cloud services)?

- reliability, service should do what they're paying for
- well documented (easy to get information that you want)
- make do in cases when tool set is massive (ie amazon)
- needs to work and needs to know how to fix it

AWS (Amazon Web Service) and related experience and issues?

- they in general are reliable, just the documentation is a nightmare, goes to the links and don't know where you are, googling the information is not helpful bz too much info
- I tried to work with them of virtual cloud service, virtual private network, (explanation of it), air messages, understandable is cryptical, without prior knowledge working with AWS is hard

Web development what is your role?

- Full stack.

What do you think about integration? Web integration?

- integration testing, deal with full stacks, have tools to go up and down to figure out what's going wrong.
- integration testing is not priority, manually, we also try to do browser, not be a major priority, will become more so in next generation, moving from manually to digitalize

What do you do manage different databases/people working together on a project (using configuration for find information in various databases)?

- project mgmt, deployment, set develop environment
- configuration part
- we recently pick up new tools, since we start, “answerable”, a few other tools called orgsifjoasijfoiasj tool, a developer can use a tool to answer questions and framework to ask questions, that’s very powerful, manually create service, automatically create the service, like web server, so we don’t do it manually

In your own words, how would you describe rapid web development?

- we don’t do it right now, i don’t know the term, GitHub flow.
- every changes are happening continuously
- push the code and make everythings square away
- good collaboration tool, we are using GitHub.

Web development framework?

- not sure

Add wizard into web development?

- nice to get start, a whole framework build, helpful
- only relevent when you get it connected, so there are certain chagnes for ppl who have specific needs, and good wizard types, what’s the basic of comsumer needs and set them correctly.

Have you use wordpress before?

- series content mgmt, for personal blog.
- I don’t work on that part, we use it on our company

What tools do you or your teams use for wordpress?

- not sure
- self contained project

What painpoints when you face when you developing?

- hate php, hate templates, try to create template and php
- themes are very overlly complicated, but wordpress is muted, more ppl want to use it, bloody type features, more developed more complicated

4. Team - Dynamic Related Questions

How are team dynamics?

- pretty good

How do you solve conflicts between individual and team?

- Technical: consensus based approach, don't want someone imposing their will on others
- certain architecture issue and they need a solution, and everyone has different opinion
- they solve by conducting design challenges! where everyone submits a solution
- sometimes people talk more about theory than solutions

Describe decision-making process for adopting new software?

- if its free, they don't talk to anyone and just go for it
- and if its under \$5 a month
- expense structure can be a bit of a pain, and they feel that if they can get away with it they'll just take care of it and start using it

How is your influence in decision making?

- I tried not to force anybody if find something interesting, for most part we want to be open, ppl can contribute, e.g. darker, open with contribution. If notice somethings in architecture decision and raise concerns, so we do code review, if everytime sb. makes changes, keep records so others know who change the code, and communicate with others.
- company cultures, code review, self learning networks.
- we will into trouble, if the source of innovation is focus on one person, that's not healthy, rely on one person too much.
- for me, three to four times in making decision
- it will be a night mare if i make every decision

How did you go about making technological decision for the team (specific instance)?

- web frameworks decision depends on mgmt team, keeping track of js, importing libraries is pain, which is load, all these can be mass.
- packing downloading can be inefficient, have to send lots of requests
- find another package requests, js, those who are interested can do with it, when we look back now, we tried to do a pretty strong consensus based job decision making, seldom we pass down on executive orders.
- my goal this year is building cultures, building the env.

Are there any tensions between deadlines and conflicts?

- org needs diff ppl, ppl play diff roles, you need one person or one group ppl to drive tasks, another to make things done, that's how org to be healthy.
- similar with family
- ppl need roles in families and orgz.
- work and life balance
- needs ppl to lean on task and ppl side

- CEO excited to make impact, (move things forward)+(don't lose minds), diff preferences and motivation, i want to be more cognized and make everybody enjoy the work they do and not drone into work

-80% ppl drone to work and they have to make things

When there is deadline, how is your approach to give deadline?

-setting realistic deadlines

-being frank that something won't happen within a certain time

-try to good job estimating before hand how much time work is going to take so have clear idea if they're on track/target and good communication to make sure they can alert people who can be alerted

-certain degree of space because they're in academia, deadlines for academics clients aren't very present and its frustrating for the company

-the big picture isn't the deadline but the impact, all about being flexible

5. Job-Related Questions (Routine or Specific Occurrences)

What is your current Job Role (Title)?

-director of architecture

-leads development on code base, working with developers on building architecture and answering their questions

-most of the stuff they put out is pretty good

-tries to spend a good amount of time coding himself, because enjoys it

-building features, fixing bugs

-answer phones once in a while

What are the first tasks you do each morning?

-opens email which he probably ignores

-osana

-things he can finish up in the morning, he tries to tackle them first so he can get them out of the way

Common tasks?

-writing codes, answering questions, dealing with fires, conversation about directions, how to build the architectures, involved in decision making

How do you deal with fires (emergencies with the software)?

-drop everything and fix it in office, if at home make sure work it fixing the problems

-figure out what's wrong with the problem and fix it

-another type of fire, is client related, we have schools and students and all portfolios on COMPANY, one student is stock by another student, this is a bad thing, we have to create a priority to fix it.

- talk problem, potential solutions, three potential approaches, send sb. in charge of it, that person and partner handle it.

- conscience on one approach.

How do you describe a productive day at work?

-conflicting measures, codes and get the features, timeline, everyone else projects run, help them achieved their objectives.

-tension: sb more senior need to get their team work done, strong motivator

-I want to be a good supervisor and coworker, and don't want to be pulled by other ppl's demand

-in the morning look at task I need to do to finish the task

How do you describe a bad day?

-fixing bugs that came up suddenly

-also days when theres tons of meetings can feel very unproductive

6. IBM Bluemix/Blogging Questions

Do you use any IBM software/technology?

-Computer

-Examples of good documentations: sigment.io, strips

-Answers on document is good, few things are missing, and their walkthrough to the point, and give ppl clear ideas, sending out example that you can follow, darker documentation is good too, good writing for human to follow.

-google gives lots of options but don't really tell where to put the documentation.