Company – IBM

Internship in User Experience Design – Summer 2020

Location - Remote

Project name: Tinker

*due to privacy reasons some details have been changed and some pictures have been blurred to protect company data

Overview:

- My incubator team of five people were assigned a project to work on over the course of 6 weeks by implementing the techniques of design thinking to create a user story and clickable protype. This was my first exposure to anything Design Thinking, so everything we did was brand new to me.

Problem Statement:

- How might we help a data scientist improve their process when performing computations on the cloud?

Assumptions & Questions

- Before we got started on anything to do with data science, my team put together a mural board of questions and assumptions. This first board helped us identify the aspects of the projects we were still unfamiliar with and served as a starting point for what specifics we needed to do additional research on.

Research Plan

- Before we did any research, we got together as a team to make a research plan. We needed a clear approach in order to address our unanswered questions. It also helped us identify who was doing which piece of the research. Since the internship was remote, splitting up the work among members worked more efficiently. We specified the purpose of our plan which was, “How might we help a data scientist improve their process while pipeline building?”.
- We then came up with the objectives of our research plan. These were focused on the main pieces of a data scientist’s workflow.
- Next, we identified what types of users we needed to talk to which were data scientists. Our plan was to interview at least 4 people with different levels of expertise in data science.
- After we came up with our purpose, objectives, and screening criteria, we created a timeline of what we needed to do. Our timeline had 3 phases: research, maps, storyboarding/personas, and prototyping. We set the dates we hoped to complete each phase by as well as which team members were working on the different phases. I mainly worked on user maps, and storyboarding/personas.

Team Name	Tinke[redacted]
Research plan owner name	[redacted]
Date	06/24/2020

Research Plan Purpose
State the business purpose

How might we help [redacted]

Research Objectives
Written as statements or questions. Be explicit. What will you test, why, and how (specific methods)? An objective must be singular & measurable.

Objective	Statement / question	Research Method(s)
Ease of Use	How can we make the [redacted] more intuitive?	Interviews, competitor analysis
Understanding of [redacted]	How well do you understand the underlying process?	Interviews, user journey maps, storyboarding, lit review, User flow
Flexibility	How can we cater to your specific research needs? What about your team?	Interviews, personas, empathy map
[redacted]Categorization	Can you efficiently select the appropriate [redacted]	(Contextual) interviews, participatory design, card sorting, A/B testing
Standardization/collaboration	How can we organize/standardize your current resources to facilitate collaboration	Interviews, card sorting, A/B testing

Screening Criteria
Describe the users you need to talk to for each phase of the research plan.

User Description	[redacted]
Number of users per group	4
Additional criteria*	Expertise in [redacted] datascience

*e.g. geography, market, expertise, experience

Timeline
Outline the reserach phases needed and their estimated timelines. State the team members assigned to leading or assisting each phase.

Phase	Work to be done	Dates	Team members
Background research on the problem statement	Reach out to sponsor users with an interview	(insert here)	(insert here)
Maps, storyboarding personas	Create user maps, storyboards, personas	(insert here)	(insert here)
Prototype and iterate; RITE testing	Collect feedback on prototypes from sponsor users	(insert here)	(insert here)

Deliverables
State interim and final deliverables (e.g. Playbacks, workshops, etc.) There is no predefined medium.

User Research

- To have a better understanding of the problem areas for our users, we:
  - Conducted user interviews
  - Referenced resource material provided to us by our sponsor team
  - Conducted a competitive analysis of other platforms for data scientists

  These helped us identify the main pain points our users were facing.

- We found that the data scientists were having issues with:
  - Identifying computational errors when computing large sets of data
  - Referencing the works of other data scientists
  - Correctly formatting computational data

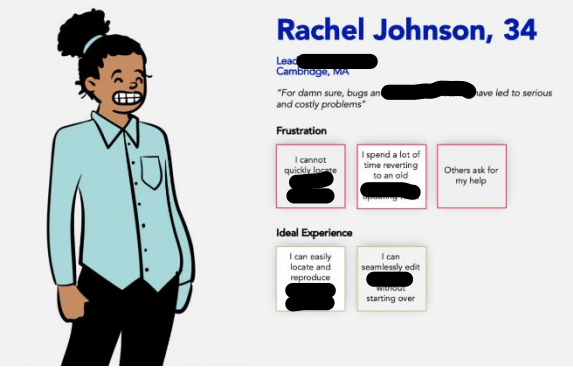
Big Ideas

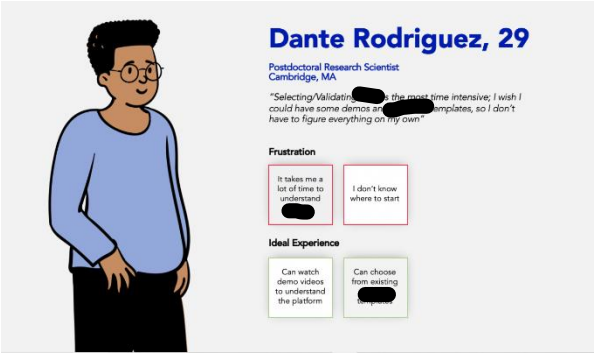
- To help brainstorm what it is we wanted to design to help our users we came up with "Big Ideas". Some were way out there, but the crazier ideas helped us open up our mind to as many possibilities we could think of.
- Once we had our "Big Ideas", we prioritized them into low/high importance and feasibility. I enjoyed the prioritization grid because it showed me how the "crazy" ideas inspired real, feasible ideas.

Persona

- After identifying the pain points of our users, we wanted to create personas that helped represent the different expertise of the data scientists we interviewed. We focused on a inexperienced data scientist and an experienced one because we noticed there was a divide between experience level. The product should be able to aid each side of the spectrum of expertise. To do this we started with each of the user's "hills".
- We discovered the entry-level data scientist needed a way to shorten the learning curve compared to those with more experience while the experienced data scientist needed access to better computational tools for further analysis.

- So we came up with Rachel and Dante:

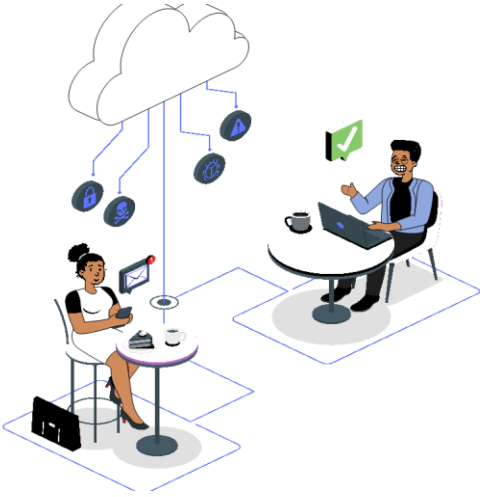


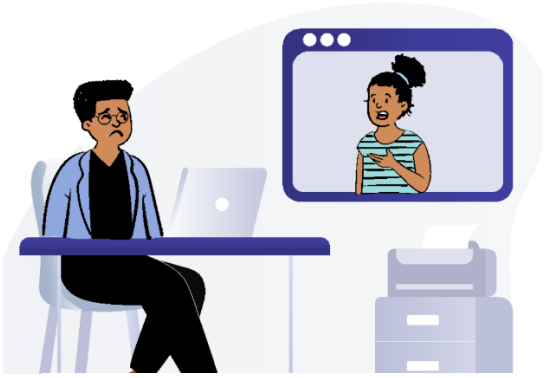


Creating As-is/To-Be

- My biggest contribution to this project was telling the as-is and to-be scenarios and creating the story visuals in Sketch. I felt it was very important to tie Rachel and Dante's as-is and to-be's together into one full story. I did this because the problem space of the project wasn't always immediately understood when our audience wasn't data scientists so the story was the main way we expressed the data scientist's complex work into something that was easy to follow along with.

- **As-Is**
    - Dante, an entry-level Data Scientist, is having difficulties due to being new on the job and needs to continually ask Rachel for help. While Rachel doesn't mind helping her co-worker, it takes away from her worktime. When Rachel tries to help Dante with his computations in the cloud, she has immense difficulty trying to pinpoint Dante's initial starting point. Spending extra time just to analyze the works of others, seems to be a reoccurring issue for Rachel. She wishes there was better resources or documentation to quickly understand what she was looking at.
- **To-Be**
    - Dante encounters a new project where he isn't quite sure exactly what he is doing. He worries he will need to consult Rachel for help again; he hopes she doesn't find him a bother. However, this time he decides to use Tinker, a new cloud service for Data Scientists. On Tinker, he is able to receive virtual assistant to help him understand the parts of the platform he is unfamiliar with. Feeling confident, Dante is able to complete his project without extra assistance. Excited about this, he shares it with Rachel. Through Tinker, Rachel can read a quick overview of Dante's project to quickly understand exactly what is happening within it. She uses his project to build on hers, which Tinker allows her to easily do. With Tinker, Rachel and Dante's combined projects provide a breakthrough in Data Science.
- **Story Visuals**
    - The story visuals were done by me in Sketch. I used multiple free sketch libraries and overlapped bits and pieces of them to create a full scene. Here are a few from the final presentation:





Prototype

- Due to privacy reasons, I can't share our final prototype. However, I learned so much about prototyping during this internship. Having never made a prototype before, the process was completely new to me. I learned that it's good to fail fast and fail cheap. Starting with paper prototypes helped me understand the general flow of what I was creating. If I didn't like something I just simply redrew it. While paper prototyping I picked up onto quickly, actually making the prototype in the computer was a new challenge. I had no clue how to use Adobe XD or Sketch. It took lots of online tutorials to learn how to put together a basic wireframe, and then create it into something high fidelity. I will be using prototypes in my future school projects which I think will help me ideate much faster through different ideas.

Takeaways

- This internship and incubator project was an amazing opportunity. I never realized how important design thinking was when creating technology. I learned so many new things that will help me in my future endeavors and career. While working remote was a challenge in itself, I was able to still work efficiently and make connections along the way. Something I discovered about myself is that I am very good at storytelling and making a story flow while including the important details. My hopes for the future is to implement design into my senior thesis of programming an application in order to show my understanding of both sides and my ability to be flexible in different or new areas of expertise.