**Team Management, Requirements and Outstanding Questions**

## **Areas of Development**

### **DevEx / DevOps**

1. Goals:
   1. Ensure productive collaboration between team members
   2. CI / CD
2. Technology:
   1. Git + GitHub
   2. CR guidelines
   3. Cloud setup (IAM, security, etc. if necessary)
   4. CI / CD ~ tentative
3. Requirements:
   1. Every team member has the same dev environment
   2. Guidelines on pull request and code reviews
   3. Cost analysis
4. Team:

### **Backend**

1. Goals:
   1. Tentative ~ depends on which technology we use
2. Technology
   1. Serverless
      1. Firebase to serve web app
      2. Cloud Functions to run R script and send result back
   2. Cloud Storage to store user-uploaded images
   3. Cloud Firestore or RealtimeDB to store user info
3. Requirements
   1. Easy R / Python integration to run model (subteam here)
   2. Easy & secure authentication
   3. High throughput
   4. Low latency -> probably not a priority since bottleneck is elsewhere at the moment
4. Team:

#### **Backend Extension**

1. Goals:
   1. Integrate R script to our backend
   2. Looking into possibility to port to Python if necessary ~ goal is to make it faster ~ I think Tara said the current script takes several minutes to run
      1. Better parallelization
2. Technology:
   1. R
   2. Python
   3. GCP
3. Requirements:
4. Team:

### **Frontend**

1. Goals: Build a web application
2. Components
3. Integration w/ backend
4. Technology:
   1. React & Redux, Sass
   2. UI Library: styled components & antd (TBD)
5. Requirements:
   1. Satisfy PWA scores (use Lighthouse chrome plugin to check this)

### **Scrum Master & Tech Lead(s)**

1. Goals:
   1. Define unknowns and several concrete deliverables
   2. Identify core requirements vs nice-to-haves
   3. Define tasks and assign story points
   4. Work w/ team to decide technology
   5. Present deliverables
2. Technology:
   1. Trello
3. Requirements:
   1. Effective communication between team and customer
4. Team:

## **Questions**

Below are some questions we need answered to help us identify requirements and goals.

**Design**

Client has mentioned the desire to freshen up the overall look and feel of the interface. Research color palettes, functional fonts and typography combinations, design styles and trends.

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| --- | --- | --- |
| **Question** | **Client Feedback** | **Notes** |
| What kind of improvements/changes are we talking about? Should the “new site” match the branding of the University of British Columbia? If so, can design assets be provided to us? | I’m hoping for a site that looks fairly modern & minimalist, with no UBC branding. The goal is to create a fluid, non-intrusive participant experience, where the site itself doesn’t draw too much attention (negative or positive). | Design assets may include but are not limited to: fonts, icons, stock and proprietary images, etc. |
| If the client wishes to pursue a full redesign instead, should we engage in a “Discovery” phase of what the new application’s look and feel should be? | I’m not sure what “full redesign” means or would entail. I would definitely like a new color scheme. It might be nice to select better fonts. But really my goal is to take the interface from looking like a ‘default’/class project to something more professional-looking. |  |
| If pursuing a full redesign, who are the primary and secondary stakeholders? | Could you clarify what you’re asking here? | Only Tara matters. |

### **Front end development**

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| --- | --- | --- |
| **Question** | **Client Feedback** | **Notes** |
| Are mobile environments something that should be prioritized? | This is a “nice to have” -- reaction time tasks on mobile vs. computer work a bit differently, so mobile data collection could be a second gen development. | Progressive enhancement vs graceful degradation. |
| Which browsers should we optimize for? Is there any data available to track traffic and browser usage on the current platform? | Definitely Chrome, Safari, Firefox → first priority is most common/widely-used platforms. Next priority would be also supporting IE, etc. [Not sure re: current platform→ need to ask Prof. Slaughter & Ugochi  **Note:** IE is reaching end of life this year. Not longer a priority. | Define Tier 1 vs Tier 2 browsers and Tier 1 vs Tier 2 devices. Mainly, is Internet Explorer a priority?  Chrome, Safari, Firefox, Edge |

**Functionality**

|  |  |  |
| --- | --- | --- |
| **Question** | **Client Feedback** | **Notes** |
|  |  |  |
|  |  |  |

**Current implementation**

Declare user role: Administrator, Participant, Researcher, etc

Currently missing: system feedback to user as it processes the image and works in the background

Tab navigation to various sections of the survey, no restrictions on the user journey

**Questions for Tara**

* How much funding is projected to maintain this product? At outset, only what is currently covered by Google funds; when functional, a pay-per-use system for outside research teams
* Will this be open sourced and maintained by a team? Let’s discuss
* What security requirements will we need to guarantee? What are the options?
* What are requirements for this product to go live?
* Can we access the current implementation now?
* How long does it currently take to run our model on user-uploaded images? Do we know why it’s taking a long time? Is there any way to speed up this process or must we take it as is?
* Are there requirements for user-uploaded photos?
  + o Please upload or use your webcam to take and submit a picture of your face that meets the following requirements:
  + § Well-lit with face clearly visible
  + § Face centered in the middle of the frame
  + § Facing forward, eyes looking into camera
  + § Neutral facial expression
  + § Nothing in front of face (e.g., no hats; glasses removed; hair (including bangs) pulled away from face; hands not touching face; large earrings removed)
* Must the web application match the branding of the University of British Columbia? If so, can design assets be provided to us? No
* Can the R script be shared with us? Should be on Github -- Prof. Slaughter?
* What feedback should we give to research participants after they have uploaded their pictures? If picture accepted vs. not → if not accepted, Ps will need to re-upload
* How do you want to save the results of an experiment? Do you need a data pipeline to extract this out? We do need to save the results & need a system for downloading & compiling. This is more complex than a single-sentence answer and some work should have already been done on it by the prior team
* <http://www.psychpopup.com/RCorExample/index.html> example website does not show us the result. Could you please give more examples of what the outputs should look like after uploading pictures and how to determine the output? How are you defining output? Is this the stimuli? This folder (do not share/disseminate) contains some examples: https://www.dropbox.com/sh/o8sukt3y2pb62c8/AADS3DPfjDZjBLK8xpvTpaC0a?dl=0
* Do we have labeled data? What is the data structure? Yes; some work should have already been done on this by the prior team
* How do we categorize different types of participants - what are all the parameters?
* Communicating with Tara?
  + Not here every week, unless needed
  + Available on Slack

**Notes (meeting with Tara 1/28/2021)**

* Budget:
  + Need to provide estimates for running the different parts of the system (DevOps, resources etc.)
* Users: administrators, researchers and participants | Different flows for each user
  + **Administrators**
    - Can add/delete/change (?) each experiment
    - Can grant administrator privileges to other users
    - Assign experiments to researchers?
  + **Researchers**
    - Administer and manage an experiment
    - Share experiments with participants (how?)
    - Can check status of experiment
    - Can analyze and collect data
  + **Participants**
    - Carry out experiment
* Experiment - Participant mapping:
  + Participant pools/ Participate in studies/ Softwares
  + Amazon mturk: <https://www.mturk.com/> | <https://www.cloudresearch.com/>(more intuitive)
  + External participants - coming from mturk/other platforms
    - Conduct experiment and give the option to login later
    - (or) login via API(?)
  + Eligibility(?)
    - Basic demographic (primary eligibility criteria)
    - ..gender(?)
    - .. age and time zone
* Privileges to users; certain users can perform actions, others cant
* Dashboard for administrators, participants and researchers
* Login/profile for all users:
* UI Design:
  + Choose color-palette (**accessible**) of your own choice
    - Color resources: <https://coolors.co/>, <https://colorhunt.co/>, <https://color.adobe.com/create/color-wheel>
    - Typography: <https://fonts.google.com/>. For budget purposes, we can stick to free fonts. San-serifs work best on the web, serif options for headings.
  + Key terms: intuitive, modern, minimalist, professional, non-distracting
  + Mock-ups/flow with respect to each type of user
    - Limit number of mock-up screens: splash screen, login, dashboard, experiment, …?
    - Design tools: Sketch and Sketch Cloud (only on Macbook, paid platform), Figma (free).
      * Designs must be **vector-based** for design specs extraction.
    - Design inspiration and resources: <https://dribbble.com/> and <https://www.behance.net/>
    - Multiple flows for users of each category(based on age etc.) - Participant level (remove if not needed)
  + Extent of accessibility of the website - for people with disabilities (<https://www.w3.org/WAI/fundamentals/accessibility-principles/>)
    - WCAG AA works; should put emphasis on keyboard accessibility, since participants should not be visually imparied; readability and contrast should still meet accessibility requirements.
* Web Security:
  + Transparency with the participants - data what and how
  + Qualtrics complaint (<https://www.qualtrics.com/core-xm/survey-software/>)
  + Build the website by EU data standards (<https://www.endpointprotector.com/blog/eu-vs-us-how-do-their-data-protection-regulations-square-off/>)
  + Amazon vs Google… (already have “in-pocket” resources from Google grant (~$5-8k)).
  + Participant data must live in Canada, other things like servers could live somewhere else.
* Image Processing algorithm:
  + Need to optimize processing of image and producing experiment images.
* Version control:
  + Previously used GitHub (and Tara mentioned GitLab)
  + The end goal is to be able to give access to Tara and tech people to the repository
* Setup a channel of communication with **Tara**
  + Slack: tdennehy@psych.ubc.ca