Summary of Primary Research (Geron)

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1. Objectives

The main deliverables of the week included:
(1) Performing User Test (UT) and survey
(2) Analyzing the data collected
(3) Preparing a summary of the work done with SWOT analysis.
(4) Using the data to get the basis for conceptual designs.

To achieve these goals, we divided the group into pairs and I was paired with Aaklit Taneja. We both mutually decided to target the professors of our institute, who are the edge cases of our study [Literate, above poverty line, well accustomed to smart phones]. Their opinions are of utter importance because they have already used present technologies and know what are their shortcomings. In each of the surveys', one person had to become a facilitator and the other had to become the observer. We took UTs of two professors and switched our roles accordingly. We used an iPad to note down all the observations and fill out the UT forms. We used Poco F1 phone for the UT tasks which had the Google Voice Assistant. All the video recordings were done on the iPhone 10.

2. Case Studies

We took UT and survey of two professors namely Prof. Alka Parekh and Prof. Ranendu Ghosh. Each had a different approach and opinion towards voice enabled services but there were similarities too. The overall observations have been described in the below sections.

2.1. Similarities

1. Both of them had smartphones which were either gifted by a relative or given by the department where they worked.
2. Both were comfortable in using their phones but none of them used the Google Voice Assistant for their daily tasks.
3. Neither of them used their phones for entertainment purposes. For example: they used YouTube only for academic purposes.
4. Both of them preferred using websites rather than dedicated apps for social media, news etc. on Google Chrome browser.
5. Both of them preferred offline references (by a relative) for medical or any small requirements such as plumber etc.
6. Both used Ola/Uber app for travelling.

2.2. Dissimilarities

1. Alka Ma'am knew the syntax 'OK GOOGLE' beforehand. Ghosh Sir wasn't able to start the assistant. The Google Assistant was not able to perceive the pace and accent of Ghosh Sirs' voice and failed to give correct output.
2. Alka Ma'am used banking and payment apps but Ghosh sir only used debit cards for payments.

3. Alka Ma’am was totally against voice enabled apps and AI powered apps in general. She believed that humans can perform tasks faster than AI. Ghosh Sir on the other hand was in favor of this technology and wanted it to be developed further.
4. Alka Ma’am learned to use her phone all by herself while Ghosh Sir learned to use phone in bits and pieces from his relatives and family.

3. Inferences generated (individual basis)

In general, Ghosh Sir was quite enthusiastic and in favor of the voice-based technology. Alka Ma’am was skeptical of the technology whether it would outperform or slower the performance humans. One of the problems both highlighted were booking of a cheaper cab. When asked whether they preferred Ola or Uber they replied ‘I prefer the cheapest’. Ghosh sir said he used Ola more due to cheaper price.

Key challenges of the task in UT:

- Accent of Ghosh Sir.
- Pauses while speaking (Ghosh Sir).
- Not familiar with the assistant (but having knowledge about it).
- Both of the test users failed to actually get the task done through the assistant as it is not smart enough to answer their questions/commands. [We tried Google Assistant as well as SIRI]

Some notable points:

- Even though they were not much acquainted to voice assistant, they were willing to share their personal experiences and information.
- They preferred the voice of the assistant to be in Indian accent.
- They preferred the assistant to be in their regional language.
- They wanted the assistant to book Uber/Ola automatically without having to interact with the screen.
- They wanted the assistant to automatically book the cheapest available cab rather than a specific service.
- Alka Ma’am knew the importance of various apps but faced the issue of frequent spam and ads.
- Both preferred using the voice assistant while driving only. At other times, they would stay with the traditional approach.

- If we evaluate the learning curve, it would be on the higher side because they were not much accustomed to using voice commands.
- Both of them used YouTube only for academic purposes. But they found it really slow way of learning. They wanted something faster, which could explain them a reading/research paper in under 5 minutes. On this point, Alka ma'am believed that humans could read and understand faster than AI/voice enabled apps.

The gulf of evaluation was quite high as the interface was not much intuitive for them. We had to manually launch the assistant and proceed with the task. After specifying the command, they weren't sure about the next step to be performed.
The gulf of execution was also quite high. Once inside the assistant, they found it difficult to talk with assistant due to their accent and pace. Some of the commands weren't understood by the assistant. In a special case using SIRI, Ghosh Sir didn't know that after every command, he had to press a button to launch SIRI again.
Both gulf of evaluation and execution made them a bit annoying and demanded for a **smarter assistant.**

4. Basis for Conceptual Design

Few inferences generated from the UT are worth converting into a feature. What I would like to target on is :

1. Booking the cheapest cab available instead of going for a specific service such as Ola or Uber for travelling.
2. Voice-based emergency vehicle (Ambulance/Fire vehicle) dispatcher. As of now, many of the test users do not use any app for medical purposes. They are dependent on references and 108 call feature. But by having such a feature, they would be able to request ambulance very quickly without having to call 108, like a smart dispatch application.
3. Thinking on the feature of explaining readings faster, I could have a voice based app, which could **summarize** a newspaper and then read out aloud, so that person doesn't have to read the whole newspaper.

Apart from these features, small features can be implemented to improve the overall experience of the users.