CS798H Project Milestone 2

Group Members:
Omkar Chavan 210280
K Prajwal Subudhi 210527
Ritick Gupta 200801
Bhavna Jayswal 211213

Service We Aim to Improve: Coursera Mobile Android App.

About the Service:
Coursera is an online platform that offers a wide range of courses from universities and institutions worldwide. The Coursera app allows users to access these courses on-the-go, providing a convenient way to learn new skills and advance their education from their mobile devices.

Formative Data Gathering (Empathising) Plan:
To gain more insight into the Coursera Mobile Android App we used worldwide Coursera app review data from Google PlayStore.
The data was obtained by web scraping from google play store and stored in the excel sheet. Each datapoint contains a review and a rating out of 5 stars. Out of a total of 242,000 reviews, we chose 199 reviews in total, opting for the reviews starting from September'23 to March'24 so the data is not outdated. We made sure that each rating has enough reviews corresponding to it. Even when the user gives 5 stars, at times they still write about some minor inconveniences so we took them into account as well. This was done to capture the opinions of all kinds of people using the app and maintain diversity within the dataset.

Stars	Number of Reviews
5	78
4	35
3	29
2	20
1	37

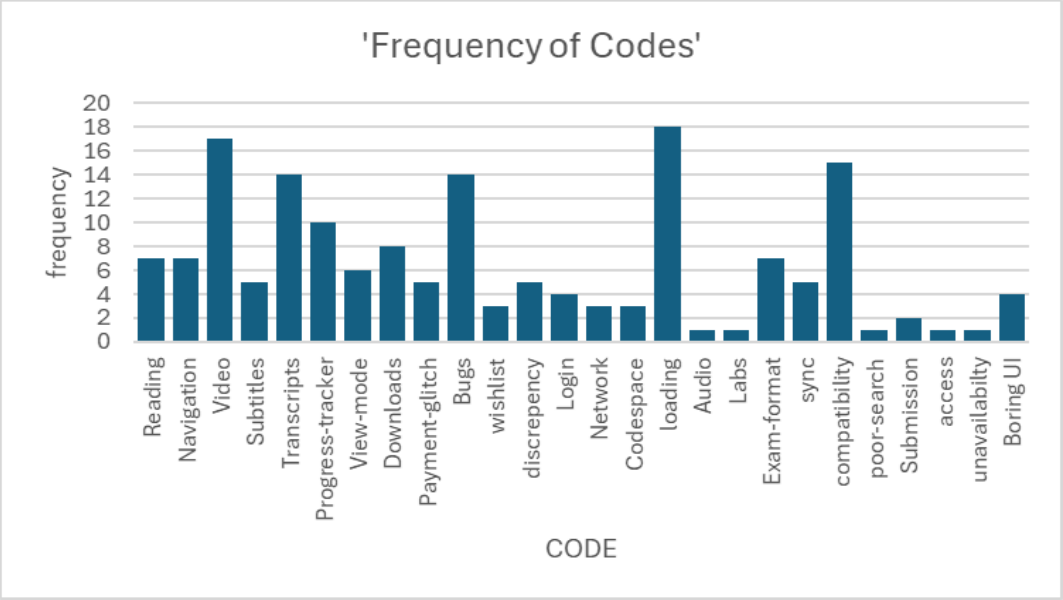
Data Analysis Plan:

We employed a qualitative coding method for reviewing the data. Each review was treated as one unit. Initially, we performed qualitative coding on 20% of the reviews individually (by two team members) and prepared two separate code books which consisted of 40 different codes when combined together.
After analysing the codes again, we merged some codes and changed others to prepare a final codebook which consisted of 28 codes. The codebook which guided the process was

created from the review data (Open-Coding approach). A total of 42.10% of codes were modified/reworded primarily to address nuanced interpretations, after negotiations, while 57.9% remained unchanged. .
After finalising the codebook we coded the data together (all 4 members) by agreeing with each other on the codes. This made our coding faster without making each coder code the same data again and again and helped reduce personal bias on the coders' part.

Results:

In addressing the issue of improvement of Coursera Android App, we conducted a thematic analysis of user reviews from Google Play Store, employing an open-coding approach. The identified units were classified into distinct codes using a codebook made from review data itself. For example, users highlighted the issue of video playback, providing evidence for the emergence of code "Video".
Attached spreadsheet presents coded reviews and the codebook with breakdown of codes. 82 reviews that contained information that was either unrelated to our study or was about how they liked the app were coded as "irrelevant." After filtering that out, the following code-frequency was obtained.



Prioritisation:

Adhering to the frequency of the codes we can prioritise to fix the following problems:

Loading, Video, Compatibility, Transcripts, Bugs, Progress trackers, Downloads, reading, Exam format, View mode, Subtitles and Sync.

Though loading, sync, compatibility, bugs and downloading represent issues with the network, glitches and other back-end problems with the application, so we will ignore them for the purpose of our assignment.

Finally the problems which we plan to fix are the following:

1) **Video**
2) **Subtitles**
3) **View mode**
4) **Progress Tracker**
5) **Exam format**
6) **Transcripts**

Note that we have combined some problems which can be fixed in one step.

Videos and Subtitles:

- It represents the issues faced by users while watching videos such as not being able to see the title of the video, not being able to access important features while watching the videos, struggling to begin the video again once paused.
- Some users suggested the addition of a new feature to turn off the subtitles, and some faced problems of not being able to understand English subtitles.
- We can fix this by adding more features in subtitles of language choice, so that students who have weak English can watch them in their own mother tongue.
- The visibility of the title and other important options can be improved while watching the video.

View Mode:

- This is an issue with the unavailability of Dark Mode which is easy to fix. We can simply add a feature for change of view mode in app settings.

Progress Tracker:

- This represents issues with saving the overall progress of a user across all courses while watching videos and doing the assignments and keeping track of their activity.
- We can solve this problem by adding one more feature on the main page for keeping track of the user's overall progress and an option asking whether the user wants to resume the last lecture, start from the beginning, or do another course entirely.

Exam Format:

- This represents the problems in writing long answer questions and coding related issues, along with not being able to see all options (for MCQs) on the same screen, the check-boxes being too small, and so on.
- It is easy to fix and should be solved because disturbance and irritation while a user is giving an exam leaves a bad experience for the user which is a demerit for the company.
- We can fix this, by simply doubling the space provided for writing an answer or increasing the space as the user goes along. We can improve the layout of quizzes in a similar manner to address all concerns. As for coding practice and exams, we can connect the users to an online platform,a good compiler, where they can have a smooth coding experience.

Transcripts:

- Some common issues related to transcripts are the splitting of highlighted sentences of the transcripts to show which line the instructor is on, some parts of the transcripts

(like the beginning or the end) not being visible properly, lack of full screen to keep up with the transcripts.

- This is a major issue with users battling ADHD or struggling to keep up with the natural pace of the lecturers.
- In order to fix this, we can change the layout of the transcript display. We can allow the user to go full screen and give a share of the screen to the video being played while the other can be dedicated to the transcripts. The highlighting can be done line-by-line as visible on the screen.

Appendix:

Links to the data to be used:

a. Coursera mobile android app google play store review data: https://drive.google.com/drive/folders/1L04n_4fL3xG3mYIuDc2bHklw9dc0J1G1?usp=sharing

b. Code used for web scraping: https://drive.google.com/file/d/1A_DmMg_pRC0FI3z_5_lFAiHcAUjyMGSG/view?usp=drive_link

c. Spreadsheets containing initial and final codebooks, coded reviews, frequency tables and IRR computation: https://docs.google.com/spreadsheets/d/1DnHzKAlqMZZ5J0at4tEDFJ_-0hMYgBmIntAPdy8pFbo/edit?usp=sharing