Team 12 - CS 307 Product Backlog

Project Name: Capsule

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Problem Statement

Our project is a time capsule mobile application. An app that users can download and then receive monthly snapshots (called capsules) of their recent memories; from pictures to music, this immersive experience allows users to reminisce on the positive aspects of their month. The magic of our application is its automation: unlike other apps where the user is forced to spend the time creating their own monthly snapshot, our app gets downloaded and forgotten about… until the end of the month, when the user is surprised with a captivating, personalized visual and acoustic masterpiece!

Background Information:

Audience

As students with a fast paced lifestyle, time seems to go faster and good memories fall to the backs of our minds. This is the problem we hope to solve. We don't have enough time to scroll through all our history of the past month and organize it to find our favorite moments. By automating this process, we can focus on our daily tasks and still be able to enjoy a recap of our good memories.

The types of users we hope to attract are teenagers and young adults hoping to reminisce on their good times and connect with others, as well as older generations in search of a simple, user-friendly application that allows them to easily obtain engaging, personal capsules.

Similar Platforms

We couldn't find any platforms that do the same thing as Capsule, however there are a few apps that provide recaps themselves such as Google Photos, Apple Photos, Snapchat, and Spotify. All of these apps provide some sort of monthly/yearly recap within their own service.

Limitations

All of these apps provide great value to users with their individual recaps, but they are limited to their own apps. That leaves significant room for development of an app that combines all these recaps to provide the user with an all-encompassing time capsule. Many of the other apps also don't provide a good way to share your recap (besides spotify), which is another key point of our app. Additionally, our app creates one snapshot, so instead of flipping through many pictures, you see your entire month all at once. Other applications also often require the user to find their own photos.

Functional

Login/Sign up

1. As a user, I would like to be able to log in/sign up via my Google account, so that the log in/sign up process goes faster.
2. As a user, I would like to be able to create a username during registration, so that I can identify myself on the platform.
3. As a user, I would like to be able to pick a profile picture during registration, so that I can better identify myself on the platform.
4. As a user, I would like to be able to have the option to link/not link my spotify account during registration, so that music can be part of my capsule account.
5. As a user, I would like to be able to have the option to link/not link my instagram account during registration, so that recent instagram photos can be part of my capsule account.
6. As a user, I would like to be able to delete my account, so that I can remove my information from the platform.

Profile, Friends, and History

7. As a user, I would like there to be a profile page unique to my account, so that I have a central hub for all account information.
8. As a user, I would like to be able to toggle between light and dark mode so that I can view the app differently depending on my preference.

9. As a user, I would like to be able to link my spotify, link my instagram, and change my profile picture, on the 'my profile' page, so that I can update any information linked to my account.
10. As a user, I would like there to be a friends page with all information relevant to friends quickly accessible, so that I can complete any actions related to friends.
11. As a user, I would like to be able to invite friends by username, so that we can see each other's capsules.
12. As a user, I would like to be able to view who has requested me as a friend in the friends page, so that I can visualize who wants to be my friend.
13. As a user, I would like to be able to accept or reject a friend request in the friends page, so that I can manage who can view my capsule.
14. As a user, I would like to be able to remove a friend that I previously accepted, so that I can choose to no longer see another person's capsule.
15. As a user, I would like there to be a history page containing a scrollable list of past capsules, so that I can be reminded of past months.
16. As a user, I would like to have a history page where I am able to see previous capsules, so that I can reflect on previous months.
17. As a user, I would like to be able to click on a snapshot to enlarge it, so that I can view more options regarding the snapshot.
18. As a user, I would like to be able to share my snapshot as an image to another app, so that I can easily send my snapshot to other people.
19. As a user, I would like to be able to edit my snapshot (options for edit page described later), so that I can further customize my snapshot.

Storyboard (sharing snapshots)

20. As a user, I would like to have a storyboard page, so that I can see my friend's snapshots.
21. As a user, I would like to be able to comment on my friend's snapshot after I enlarge it, so that I can leave my opinion about their snapshot.
22. As a user, I would like to be able to react to my friend's snapshot after I enlarge it, so that I can emotionally connect with my friend.
23. As a user, I would like the storyboard to be reset every month, so that I can only view the most recent capsules.

Main Page

24. As a user, I would like to be able to see a countdown until I get my monthly snapshot if it is not time for it to be displayed, so that I know when to expect my new capsule.
25. As a user, I would like to be able to view my snapshot at the end of the month, so that I can reminisce on the past month.

26. As a user, I would like my snapshot to have my most played song of the month, so that I have another reminder of the month.
27. As a user, I would like a portion of the snapshot's song to play out loud anytime I am looking at a snapshot so that I can audibly connect with the capsule
28. As a user, I would like Time Capsule to intelligently choose photos for my snapshot, such as landscapes and people smiling, so that I have quality photos for my capsule.
29. As a user, I would like my snapshot to use my Instagram photos, if I posted that month, so that I can relive the experiences in my capsule.
30. As a user, I would like my snapshot to not contain identical pictures, so that I have a variety of photos on my snapshot.
31. As a user, I would like my snapshot to pick default photos / songs if I have not taken enough pictures / linked my spotify account , so that I always have enough information for the capsule.
32. As a user, I would like my snapshot to contain a variable amount of photos, so that it allows more flexibility in the photo picking process.
33. As a user, I would like my snapshot to contain a quote from my song of the month, so that I am reminded of the lyrics.
34. As a user, I would like to be able to share my snapshot to the storyboard, so that my friends can see it.

Editing

35. As a user, I would like to be able to view an edit page where I can access all features regarding the editing of a snapshot, so that I can have all editing features in one spot.
36. As a user, I would like to be able to click on a photo to change the photo in the edit page, so that I can replace the photo if I do not like it.
37. As a user, I would like to be able to click on the song to change my song in the edit page, so that I can choose another song I would rather have in the snapshot.
38. As a user, I would like to be able to edit the quote on the snapshot, so that I can add my own thoughts to the snapshot.
39. As a user, I would like to be able to change the number of photos used in the snapshot, so that I can have greater control over the photos shown in the snapshot.
40. As a user, I would like to be able to save my edited snapshot, so that it automatically updates my storyboard and history

Yearly Recap (Moments)

41. As a user, I would like to be able to insert brief descriptions of moments that occur throughout the year, so that I can remember them later on.
42. As a user, I would like to be able to see how many moments I have entered throughout the year, so that I have a visual reminder of how many moments I have already entered.
43. As a user, I would like to receive all the moments I sent at the end of the year, so that I can have a recap of all my favorite memories from the year.
44. As a user, I would like all user moments to have a timestamp of when they were submitted, so that I can better picture what was happening at that time.

Notifications

45. As a user, I would like to receive a notification when my monthly snapshot is released so that I know when it has become available
46. As a user I would like to receive a notification when someone accepts my friend request or invites me to be their friend so that I am up-to-date with friend requests
47. As a user I would like to receive a notification when someone reacts or comments on my snapshot so that I am aware of the reactions / comments
48. As a user I would like to receive a notification when a friend shares their snapshot to the storyboard so that I know and can go look at it

Non Functional:

Architecture

We plan to develop an application with a completely separate frontend and backend. Using this structure will allow for better compatibility while developing both simultaneously. The frontend will consist of the user interface while the backend will consist of the application server and database.

The frontend will be written in JavaScript using the React Native framework. This will allow us to have an extremely portable application that can be used cross-platform across mobile devices. For testing and demo purposes we intend to use Expo Go, which will allow us to see our app on our phones without requiring any of us to have an Apple computer.

The backend will be a Node.js server hosted on an Amazon Web Service (AWS) EC2 instance. We will use API calls to this server to access information that will be used on the frontend.

The database will be MongoDB. Here we will store user info such as snapshots, friends, and usernames. Using MongoDB's flexible schema we can have varied ways to store information making MongoDB a good choice for flexible development

Security
Security is crucial to protect our client's snapshots and login data. Using Google's authentication services with ReactNative we will ensure only users with correct login data may request their data from the MongoDB database. We may allow users to create their username/password information, but for now, we plan on just using G-Auth because it provides its own security. We will also be routing every request for information through our API, which will require authentication.

Usability
Since the app has such a wide range of potential users, the interface must be extremely intuitive. We intend to design it in such a way that the user should have to do as little work as possible. This means that after the initial setup (linking other accounts/apps to get data) the user interface will be relatively simple. The bulk of the app will focus on receiving and modifying the monthly snapshot, which will be easy for users to understand. The app frontend will also be accessible on different types/sizes of mobile devices and will run smoothly because we used a modern stack that can support requests times up to 500 ms.

Hosting/Deployment
Our frontend and backend are developed separately, which means that their deployment will be in different places as well. Our backend will be hosted on an AWS EC2 instance for the semester and beyond, we chose AWS because it's a reliable service that we can have running 24 hours a day. The frontend will be deployed for testing on Expo Go, and we intend to explore other options for deployment to the public (potentially GitHub pages or Netlify).