High-level Requirements (≥10 items)

1. The application will be web-based, built using the Ionic Framework and React, in order to support multiple front-ends across multiple platforms.

2. The application will leverage cloud services in order to store all of its user information/data in a scalable manner, so the application can support thousands of concurrent users.
    - The web application will be deployed through the cloud, so users can experience a smooth low-latency application.
    - The application will also use Machine Learning services from the cloud in order to provide Text-To-Speech & Sentiment Analysis & Text Classification on user entries, in order to enhance the user input experience and encourage unique entries.

3. The user must be able to write and save notes regarding what they are thankful for and be able to input a happiness score.
    - The user must also be able to edit their notes for the day and adjust their happiness score at any time throughout the day.
    - The application must encourage the user to write unique notes, by comparing the current entry to previous entries and topics through our Entry Encouragement Service
    - The user should be able to attach images to their notes if they desire, which will also be stored on the cloud.
    - The user should only be able to have up to five entries a day, in order to ensure that the user's entries are meaningful.

4. The user must be able to retrieve notes from the past by either date or topic or happiness score.

5. The user must create an account with our application through Google SSO, so that the system can associate user's entries with a single account, so they can login on other platforms and view their notes.
    - The system maintains a list of registered accounts through a cloud identity management platform.
    - The system also maintains the user data through the cloud.

6. The user should be able to easily share his notes to any messaging platform.

7. The application will utilize a REST 2.0 API which will need to be deployed on the cloud, in order to communicate seamlessly between the multiple front-ends and backend of our application.

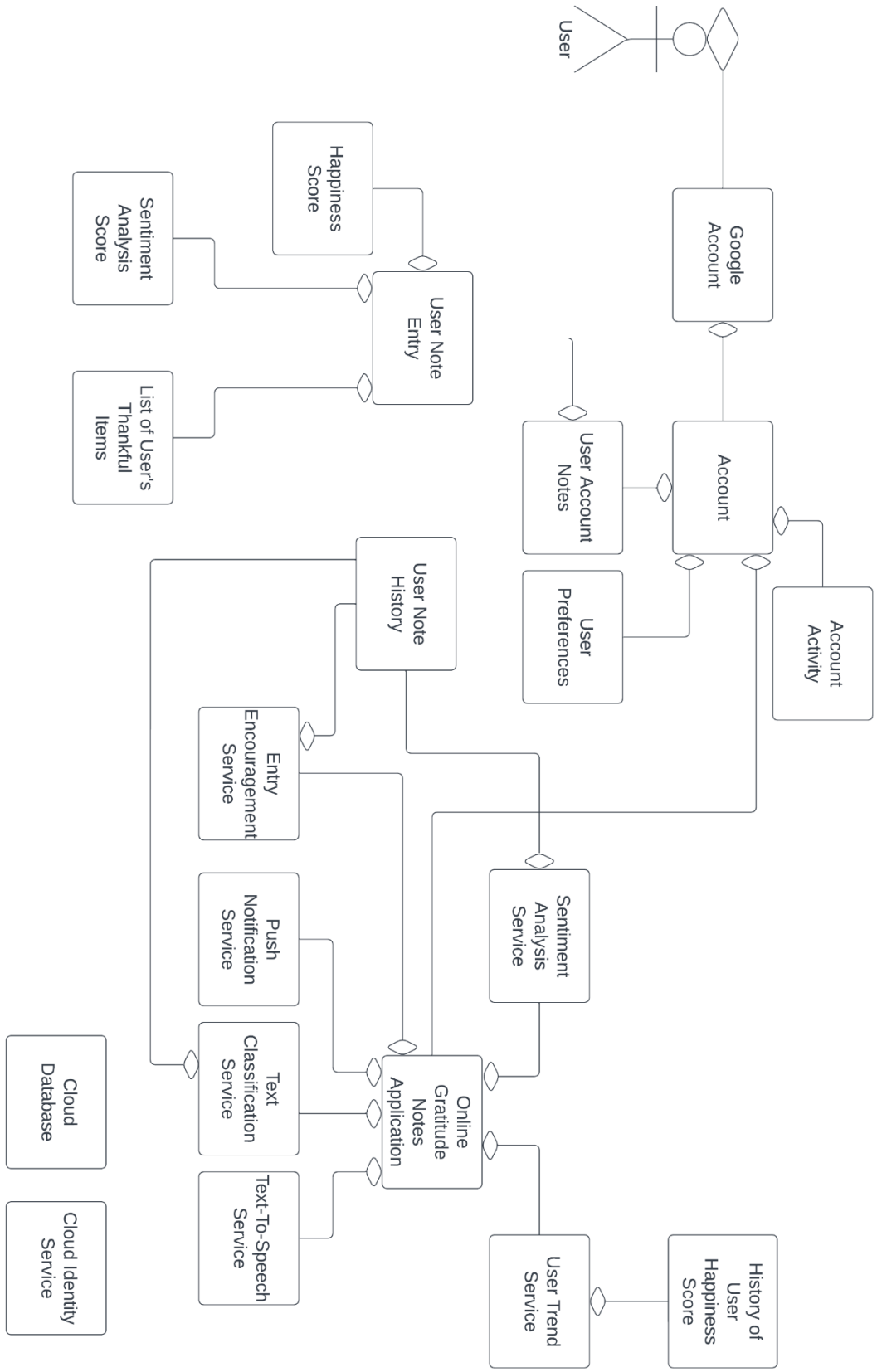
8. The application should display trends regarding the user's happiness score throughout the month, and notify the user of his/her behavior, and highlight improvements.

9. The application should also have a featured section, where it displays notes from the past, where the User had a high happiness score, when it detects the User is in a rough week (from a pattern of low happiness score).

10. The application should also display common topics that the User tends to become happy from throughout his/her long-term use of the app.

11. The application must also show a dashboard of how consistently the user has been adding notes, and allow the user to set daily reminder notifications.

Domain Model

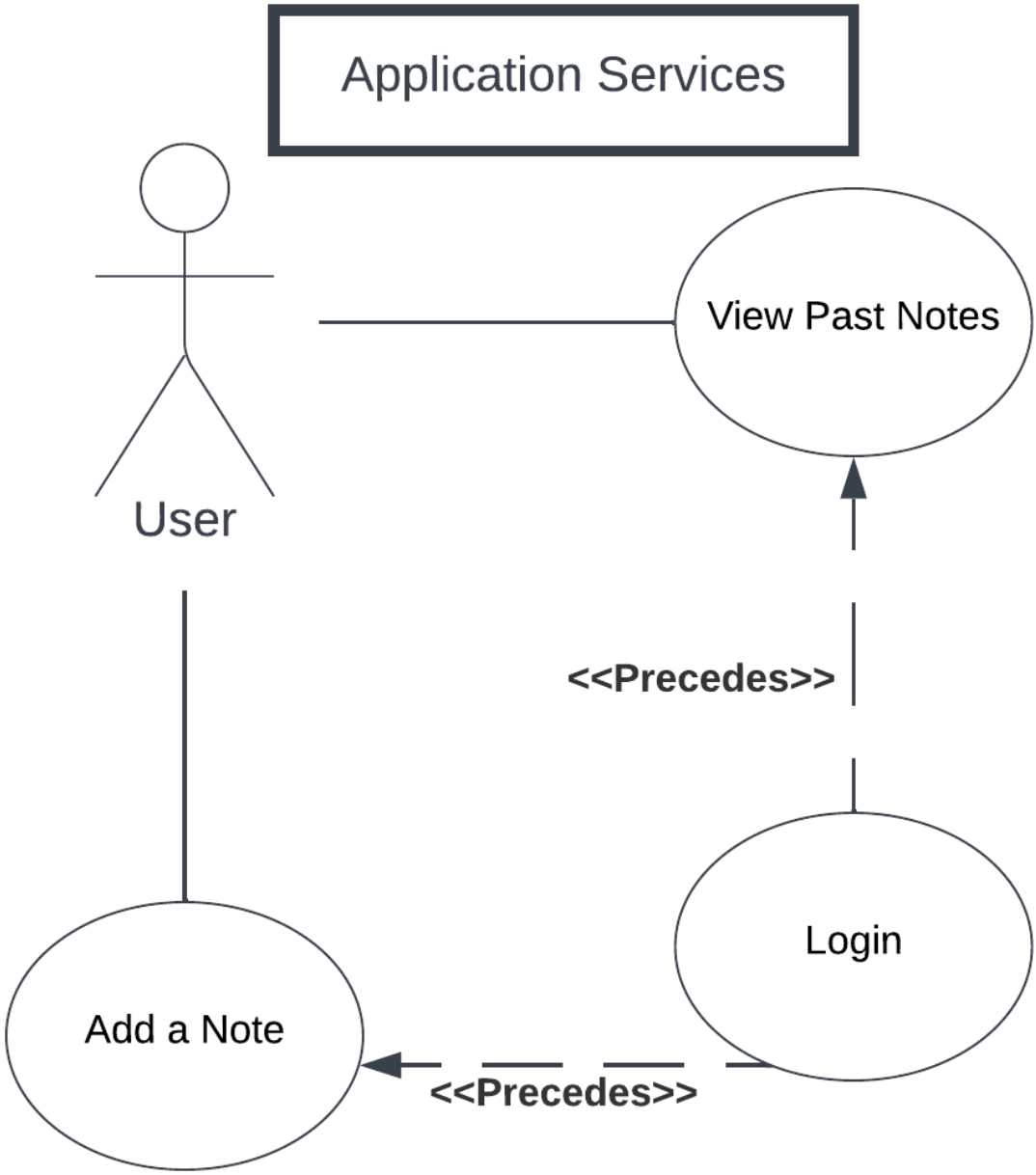


Project Glossary

SSO - Single sign-on. Read about it here https://cloud.google.com/architecture/identity/single-sign-on.

Cloud Identity - Cloud-based Identity Provider for our authentication. Our cloud provider will be Google Identity. Read about it here: https://cloud.google.com/identity

Use Case Diagram



Login Use Case Text

BASIC COURSE:

On the Login Page, the User clicks Sign-in with Google Button, and the system displays Google SSO Page. The User types Password for their Google Account. Then, the User clicks Google SSO Next Button, where Google Identity generates authentication cookies on a valid login. After cookie generation, the system receives the cookies from Google Identity and displays Gratitude Notes Dashboard Page.

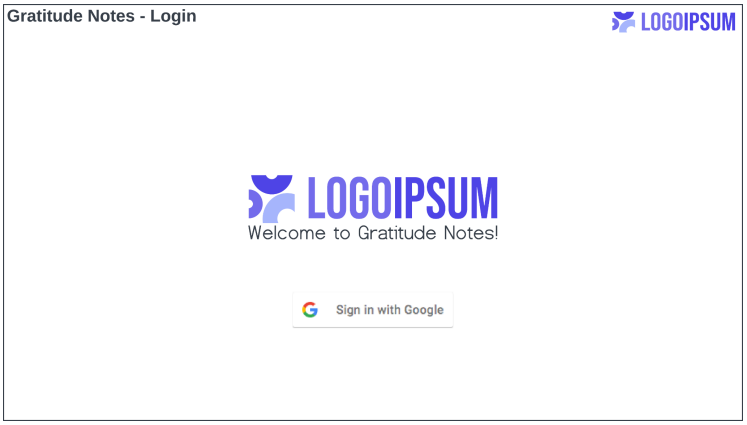
ALTERNATE COURSES:

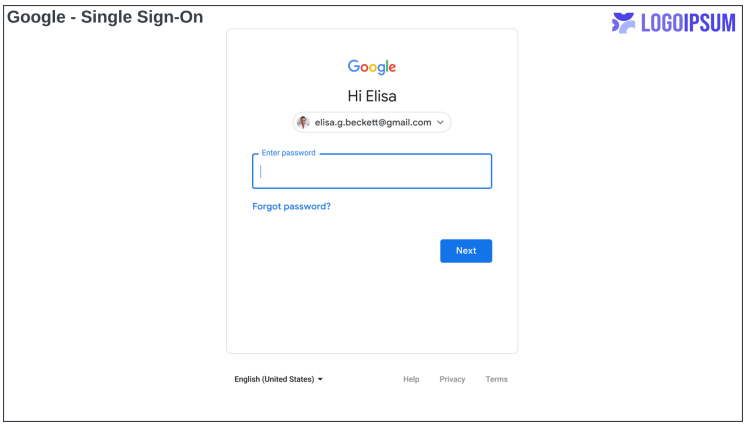
Page not loading: The system shows Error Page, which contains a message, "Our service may be down, please try reconnecting later."

User does not have a Google Account or they want to create a Google Account: Then, the User clicks Google Create Account Button. Next, the User undergoes Google Account creation. After verification, the system displays Gratitude Notes Dashboard Page.

User enters wrong Password: Then, Google displays Google Wrong Password message, which contains "Wrong password. Try again or click Forgot password to reset it."

User forgot their Password: Then, the User clicks Google Forgot Password Button. Next, the User undergoes Google Account recovery. After verification, the system displays Gratitude Notes Dashboard Page.





Add Notes Use Case Text

BASIC COURSE:

On the Gratitude Notes Dashboard Page, the User clicks the Add Button. The system displays Add Notes Page. The User enters their Note Entry and their Gratitude Happiness Score. After, the User clicks the Submit Button; the system checks the Note Entry does not exceed 280 words and the Happiness Score. Then, the system sends the Note Entry to the Entry Encouragement Service. After the check, the system updates the Cloud Database and the system sends the Note Entry to the Text Classification Service and Sentiment Analysis Service. Lastly, the system displays the Gratitude Notes Dashboard Page.

ALTERNATE COURSES:

Page/Service not loading/responsive: The system shows Error Page, which contains a message, "Our service may be down, please try reconnecting later."

User picks date in the future: The system shows Error Page, which contains a message, "A future date cannot be picked." Then, the system displays Gratitude Notes Dashboard Page.

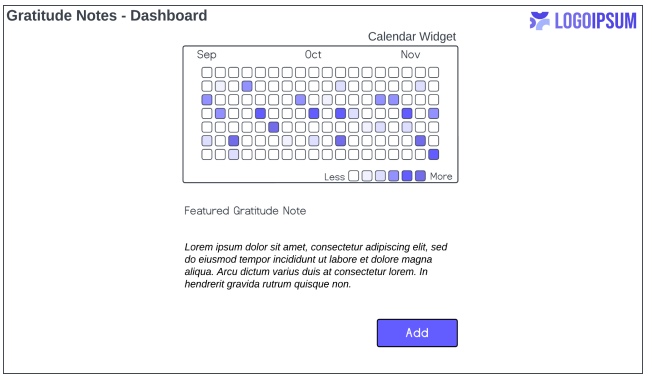
User not logged in: The system invokes Login Use Case.

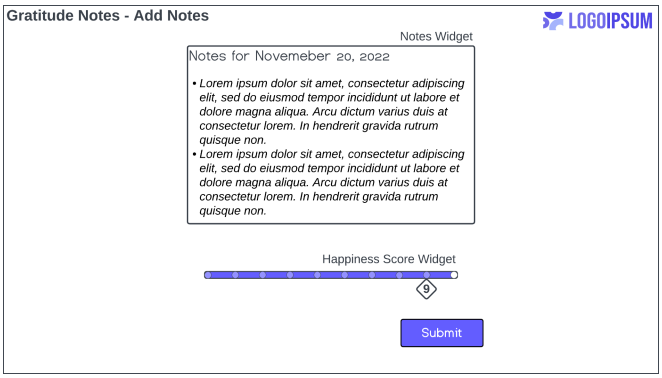
User hits the submit button without entering a note: The system shows an Error Page, which contains, "Please fill out the note." Then, the system displays Gratitude Notes Dashboard Page.

User hits the submit button without entering a happiness score: The system shows an Error Page, which contains, "Please fill out the happiness score." Then, the system displays Gratitude Notes Dashboard Page.

User fills out more than 5 notes: The system shows an Error Page which contains a message, "Only 5 notes can be entered per day." Then, the system displays Gratitude Notes Dashboard Page.

The Note Entry exceeds more than 280 characters: The system shows an Error Page, which contains a message, "A max of 280 characters can be used per journal entry. Please delete some words." Then, the system displays the Add Page.





View Past Note Use Case Text

BASIC COURSE:

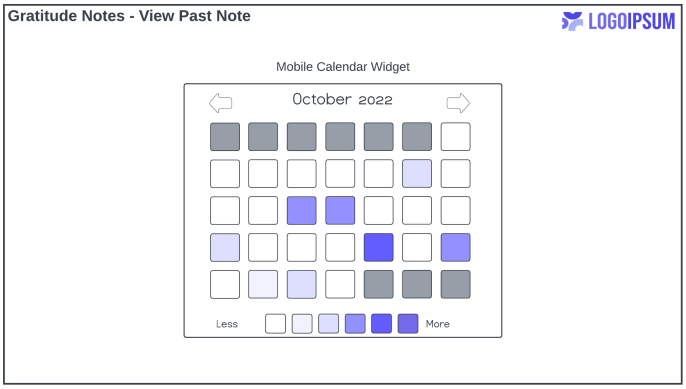
On the Gratitude Notes Dashboard Page, the User clicks Past Date Button from Calendar Widget. The system receives Past Date and the system displays Note Entry and Gratitude Happiness Score on the Past Day Note Page.

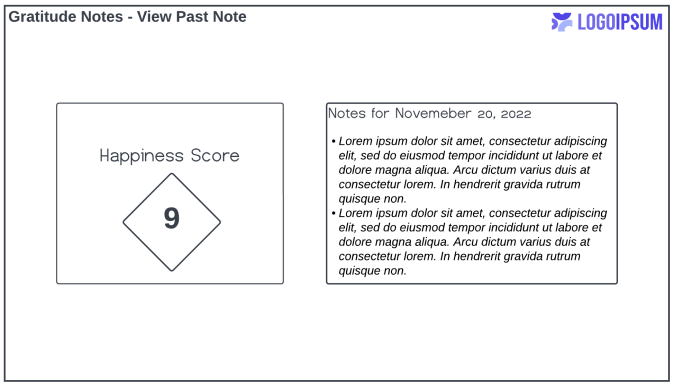
ALTERNATE COURSES:

Page not loading: The system shows Error Page, which contains a message, “Our service may be down, please try reconnecting later.”

A past date has no matching Gratitude Note/Happiness Score: The system shows Error Page, which contains a message, “There is no entry from this date.” Then, the system displays Gratitude Notes Dashboard Page.

The User is not logged in: The system invokes the Login Use Case.





Storyboard

Gratitude Notes Storyboard
DROP TABLE CAPSTONE; | November 20, 2022
User is preparing to sleep.
A notification reminder pops up on their phone to write out their notes in the notes app.
User clicks on notification
9:41
Tuesday, September 14
Reminder to write a note today!
LOGOIPSUM
Google
Hi Elisa
Next
Add Today's Note
User clicks Add Note to write down what made them happy today, along with an happiness score.
Featured Gratitude Note
Submit
User fills out note entry
Display Dashboard
User logs into app
9:41
Tuesday, September 14
Look at your Featured Moments!
User logs into app
Featured Gratitude Note
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
Display Featured Gratitude Note
User looks at featured moments.
User feels better and happier for the day.
User gets notification to look at featured moments once they wake up.