



Final Project: Ashesi Social Network

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CS341: Web Technologies

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Links

GitHub: https://github.com/Ashesi-Org/AU_socialNetwork

Firebase deployment: <https://au-socialnetwork-api.web.app/>

Description of the entire system

The system is a platform designed exclusively for students of Ashesi University. The system's development involves using REST API for the backend, Serverless for storage, Cloud Deployments for the various functionalities, and Flutter technologies for the front end. The platform will have six main functionalities: creating a profile page, editing the profile page, viewing the profile page, creating a post page, a feed page, and email notification. The API that allows requests to the server makes use of the Flask Framework and therefore Python. To store data, Firestore is used. A user can log in and out of the system. The six functionalities of the system include creating a profile page, allowing users to submit their student ID number, name, email, date of birth, year group, major, campus residence status, favorite food, and movie. Users will also be able to edit their profile information except for their name, email, and student ID. The view profile page will display the profile information of a specific user. Additionally, the system will allow users to create posts by entering their email and the text they want to share. The feed page will show all posts made by users in descending order of time, and the page will update in real-time, achieved by using Flutter Dart's stream property. Finally, the system sends an email notification to all users when a new post is made, indicating the name of the user who created the post in the database's email trigger function.

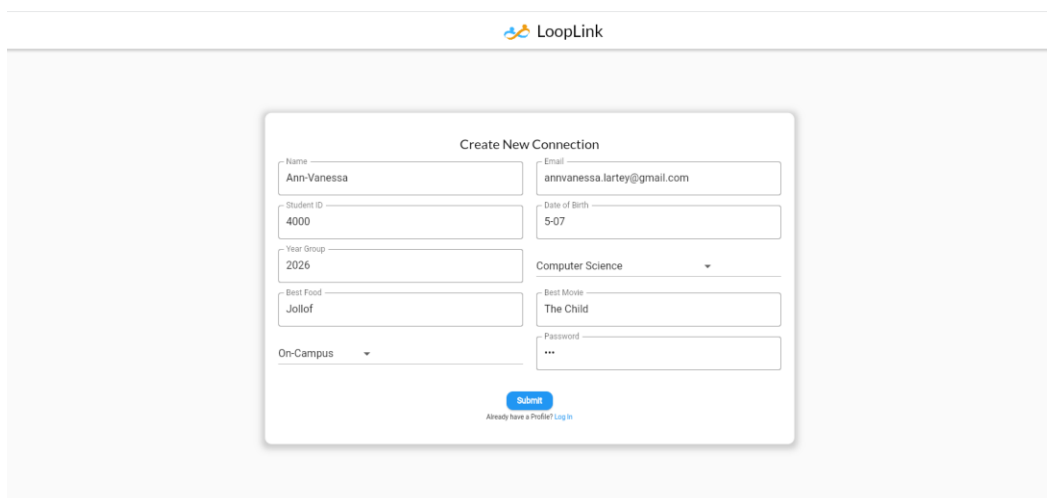
Description of how to test the system

The testing of the system can be divided into two parts. Testing the API and storage using Firestore. This can be done using Postman by sending requests to the API and the responses received will validate the test. Another segment of the testing is using Flutter Dart as the front end that runs and

navigates the various requests to the API which then stores in the Firestore. The first step is to either sign up by creating a profile or log in using a student id and password. Confirm that the information entered is displayed correctly on the profile page and submit. The user is then led to the feed page where they can navigate to create a post. To make a post, navigate to the create post page, enter a text, and submit. The user will be directed to the feed to see a display of posts in descending order of time on the feed page. Additionally, create new posts and ensure that they appear at the top of the feed page in real time, and an email notification is sent to all users indicating the name of the user who made the post. From the feed, the user can also navigate to view their profile and from there navigate to edit their profile where they can insert details to be changed except for the name, email, and id. Finally, to log out of the system, the user can either do that on the feed page or from their profile page. By following these steps, the system's functionality can be tested comprehensively, and any issues identified can be addressed to ensure the system is functioning optimally.

Screenshots of Functionalities

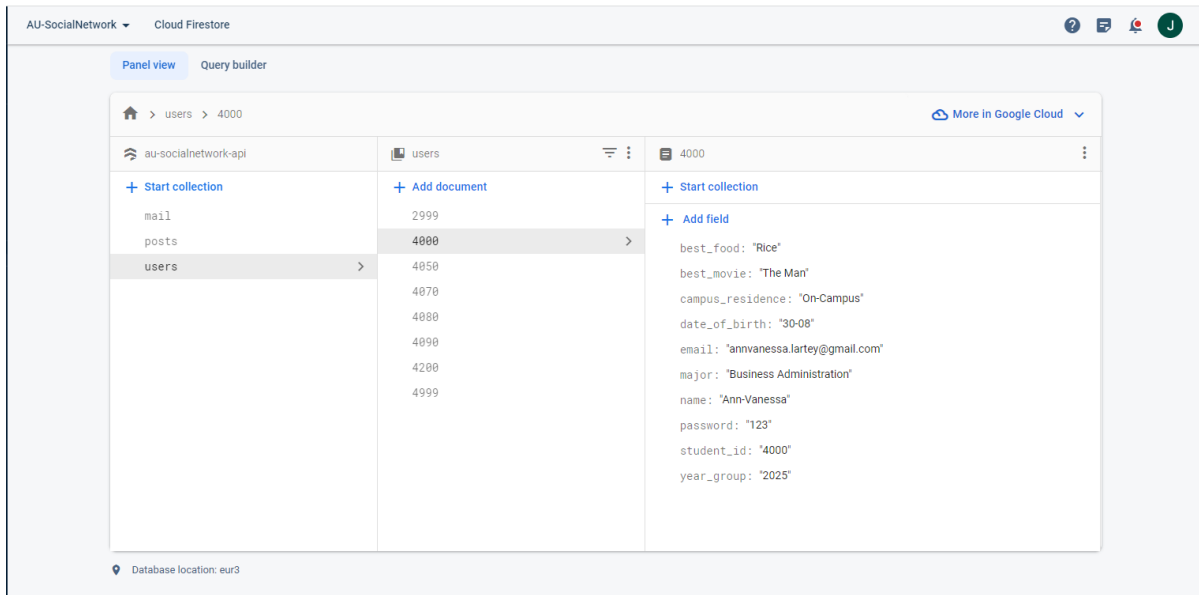
1. Create Profile Page



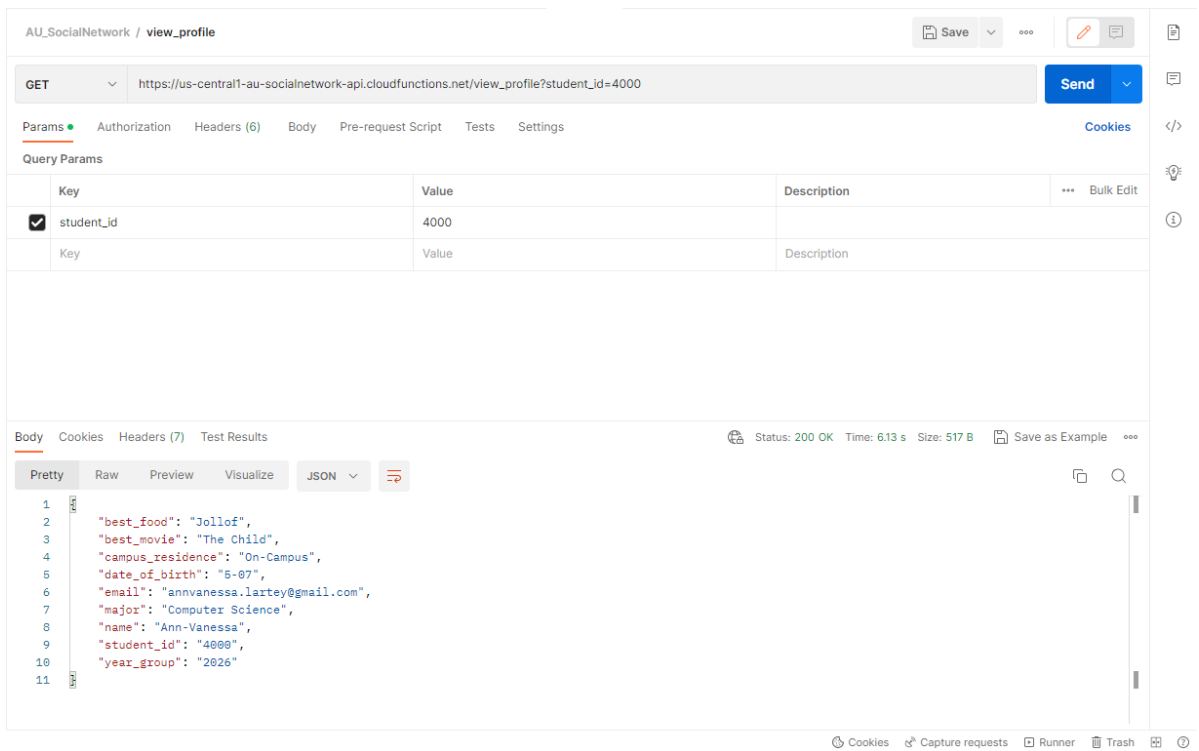
The screenshot displays the 'Create New Connection' form within the LoopLink application. The form is titled 'Create New Connection' and is set against a light gray background. It contains several input fields for user registration:

- Name:** A text input field containing 'Ann-Vanessa'.
- Email:** A text input field containing 'annvanessa.lartey@gmail.com'.
- Student ID:** A text input field containing '4000'.
- Date of Birth:** A date picker field showing '5-07'.
- Year Group:** A text input field containing '2026'.
- Computer Science:** A dropdown menu with 'Computer Science' selected.
- Best Food:** A text input field containing 'Jollof'.
- Best Movie:** A text input field containing 'The Child'.
- On-Campus:** A dropdown menu with a downward arrow.
- Password:** A password input field with a strength indicator (three dots).

At the bottom of the form, there is a blue 'Submit' button. Below the button, a small link reads 'Already have a Profile? Log In'.



2. View Profile Page



AU-SocialNetwork

Cloud Firestore

?

J

Panel view

Query builder

🏠 > users > 4000

More in Google Cloud

au-socialnetwork-api

users

4000

+ Start collection

mail

posts

users

+ Add document

2999

4000

4050

4070

4080

4090

4200

4999

+ Start collection

+ Add field

best_food: 'Jollof'

best_movie: 'The Child'

campus_residence: 'On-Campus'

date_of_birth: '5-07'

email: 'annvanessa.lartey@gmail.com'

major: 'Computer Science'

name: 'Ann-Vanessa'

password: '123'

student_id: '4000'

year_group: '2026'

Database location: eur3

<

LoopLink

Name

Ann-Vanessa

Email

annvanessa.lartey@gmail.com

Date of Birth

5-07

Major

Computer Science

Year Group

2026

Residence

On-Campus

Best Food

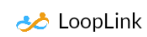
Jollof

Best Movie

The Child

3. Edit Profile Page

The screenshot shows the Google Cloud Firestore console interface. At the top, the breadcrumb navigation indicates the path: `au-socialnetwork-api` > `users` > `4000`. The left sidebar shows the collection hierarchy with `users` selected. The main panel is divided into three sections: a left pane with collection management options, a middle pane showing a list of documents in the `users` collection, and a right pane showing the details of the selected document `4000`. The document details include fields such as `best_food`, `best_movie`, `campus_residence`, `date_of_birth`, `email`, `major`, `name`, `password`, `student_id`, and `year_group`. The database location is noted as `eur3`.



Edit Profile

Date of Birth
30-08

Year Group
2025

Best Food
Rice

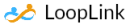
Best Movie
The Man



On-Campus

Business Administration

SAVE

4. Create Post Page





Web Tec Requirements eiii hmmm!

POST

AU-SocialNetwork ▾Cloud Firestore

Panel viewQuery builder

🏠 > posts > 0JaivUt0d0QBvUf7DAiw

More in Google Cloud ▾

au-socialnetwork-api

posts

0JaivUt0d0QBvUf7DAiw

+ Start collection

mail

posts >

users

+ Add document

0JaivUt0d0QBvUf7DAiw >

3tt6XhwcmBmKDeN6byrg

44HzfNrnc08gGBp6aCXC

7YVB7RaZL7pSzig9r83o

DxdAbJUzWxurCNsAMnzS

HC1iZ1qYDGX283sLv3UF

HMPUIuuU1cCruiu7MeTH

I0atxs1EauKHfFzWEUKE

IvWEAd5CBFFLuBDbNo43

J3kx7e9Wx1YmAsCn9QwS

LMh5DLWiRGhb9bTd6lks

M1fGJo0hedrmPpdnUGMr

07iLBZhZSty9FByI3oaE

RTVjdTNmxtQygEGngvw

+ Start collection

+ Add field

email: "amanfubeveryn@gmail.com"

message: "Web Tec Requirements eiii hmmm!"

timestamp: "2023-04-26 00:02:21"

📍 Database location: eur3

5. Feed Page

AU_SocialNetwork / view_feed

Save

GET

https://au-socialnetwork-api.ew.r.appspot.com/posts

Send

Params

Authorization

Headers (6)

Body

Pre-request Script

Tests

Settings

Cookies

Query Params

Key	Value	Description
Key	Value	Description

Body

Cookies

Headers (10)

Test Results

Status: 200 OK

Time: 2.98 s

Size: 3.4 KB

Save as Example

Pretty

Raw

Preview

Visualize

JSON

```
1 {
2   "email": "johnmanful2002@gmail.com",
3   "message": "Like my heart! hm",
4   "timestamp": "2023-04-25 14:48:33"
5 }
6 {
7   "email": "amanfubeverylyn@gmail.com",
8   "message": "Many things are happening",
9   "timestamp": "2023-04-24 23:14:43"
10 }
11 {
12   "email": "jochebed.basil@ashesi.edu.gh",
13   "message": "Many things are happening",
14   "timestamp": "2023-04-24 23:09:08"
15 }
16 {
17   "email": "johnmanful2002@gmail.com",
18   "message": "Many things are happening",
19   "timestamp": "2023-04-24 23:09:08"
20 }
```

AU-SocialNetwork

Cloud Firestore

Panel view

Query builder

posts > 3tt6XhwcmBmKDeN6byrg

More in Google Cloud

au-socialnetwork-api

posts

3tt6XhwcmBmKDeN6byrg

+ Start collection

mail

posts

users

+ Add document

3tt6XhwcmBmKDeN6byrg

44HzfMrnc08g0Bp6aCXC

7YV87RaZL7pSzig9r83o

DxdAbJUzWxurCNsAMnzS

HC1iZ1qYDGX283sLv3UF

HMPUIuuU1cCruiu7MeTH

IvWEAd5CBFFLu8DbNo43

J3kx7e9Wx1YmAsCn9QwS

LMh5DLWiRGhb9bTd61ks

M1fGJo8hedrmPpdnUGMr

07iLBZhZSty9FBYI3oaE

RTVjdTNmxtQygEGngvw

S09PAa5Ej59P89fDvwgT

TYyb3x3vpM1NiFu0RBT

+ Start collection

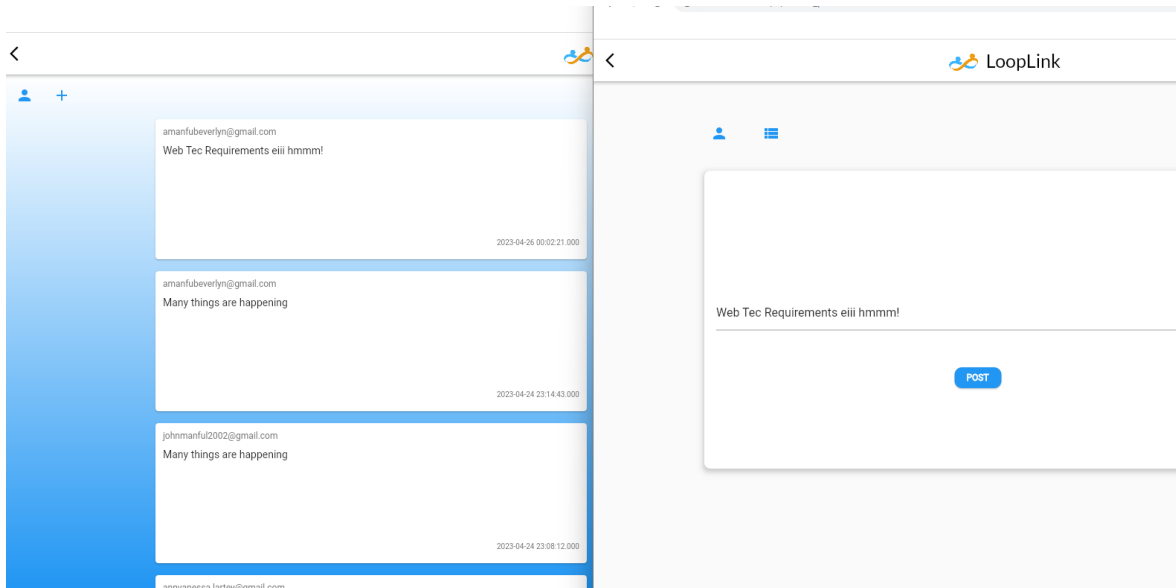
+ Add field

email: "ann-vanessa.lartey@ashesi.edu.gh"

message: "I love God"

timestamp: "2023-04-24 02:49:18"

Database location: eur3



6. Email Notification

