CSCE 606: Software Engineering Project

Title: CSE PhD Qual Practice System

Team: WeCode

Iteration 4 Report

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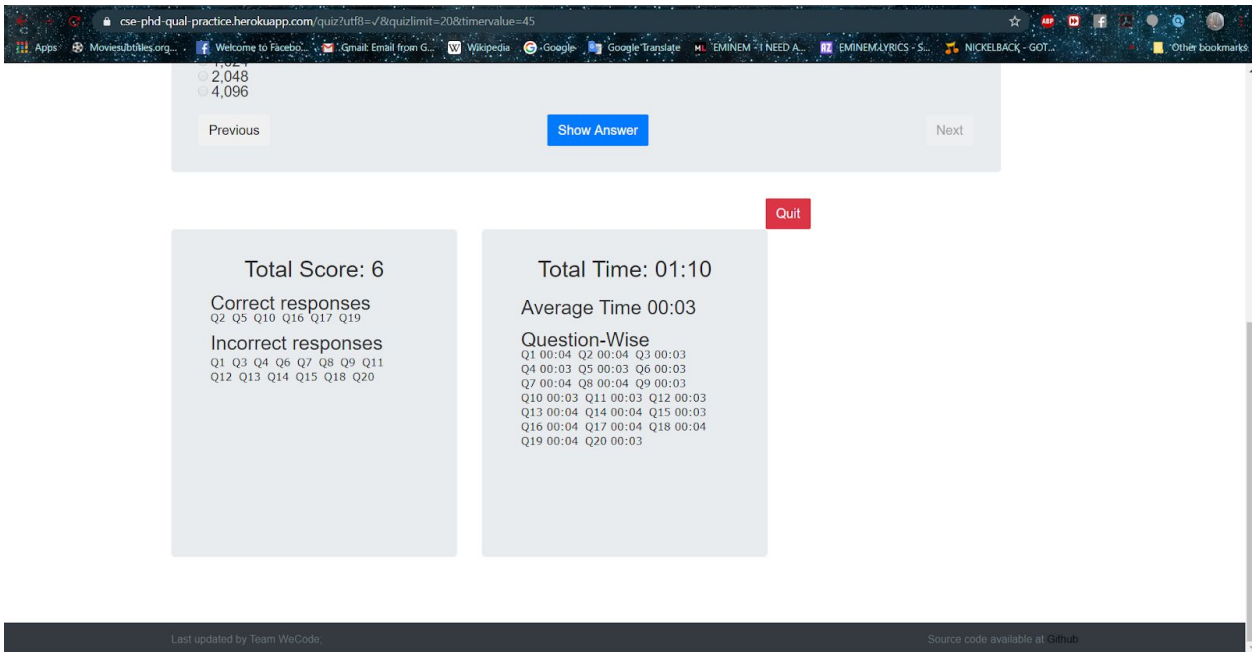
1. User stories implemented in this iteration:

- Quiz statistics
- Manual testing of All features

Quiz statistics:
Description:
This feature shows the user statistics regarding the quiz like the average time to solve all the questions, time for solving each question, Total time to solve all questions. To implement this feature we wrote a Javascript method which uses the timer values to calculate the time for each question and sums it up to get the total time. And there is a method which converts the time to string and then plugs it in the html when the submit button is clicked.



Manual testing of All features:

Description:

This story involved testing all the features of the application and finding any bugs and fixing them. We tested the below features on Mobile phones like One Plus 7 pro, Redmi Note 4, Desktops and also on different browsers like Google, Mozilla Firefox.

1) User Registration as an admin as well as normal user(Includes the email verification too).
2) Admin makes other users as admin.
3) Login using normal username and password.
4) Login using Google+ and Facebook.
5) Reset Password i.e. Forget Password.
6) Quit Quiz.
7) Solve the quiz with different questions and Timer values and test features like Next, Previous and Show Answer, Submit and Quit Quiz and Show Statistics.
8) Practice session with Different categories(As many combinations as possible) and Quit Practice Session and Show answers.
9) Added and deleted categories(And only admin should be able to approve it).
10) Add, delete and edit questions(And only admin should be able to approve it).
11) Sort Ascending and descending to the questions based on the column used(sort by ID).

2. Testing achieved and Bugs identified:

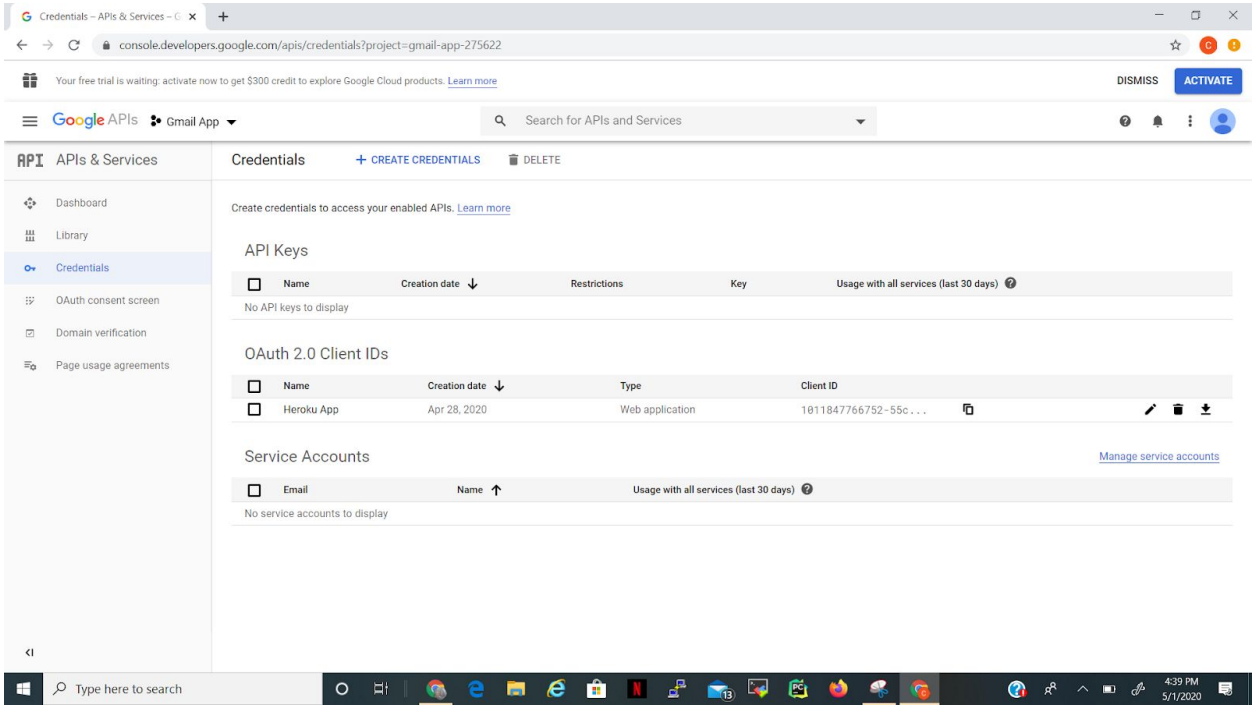
Quiz statistics:

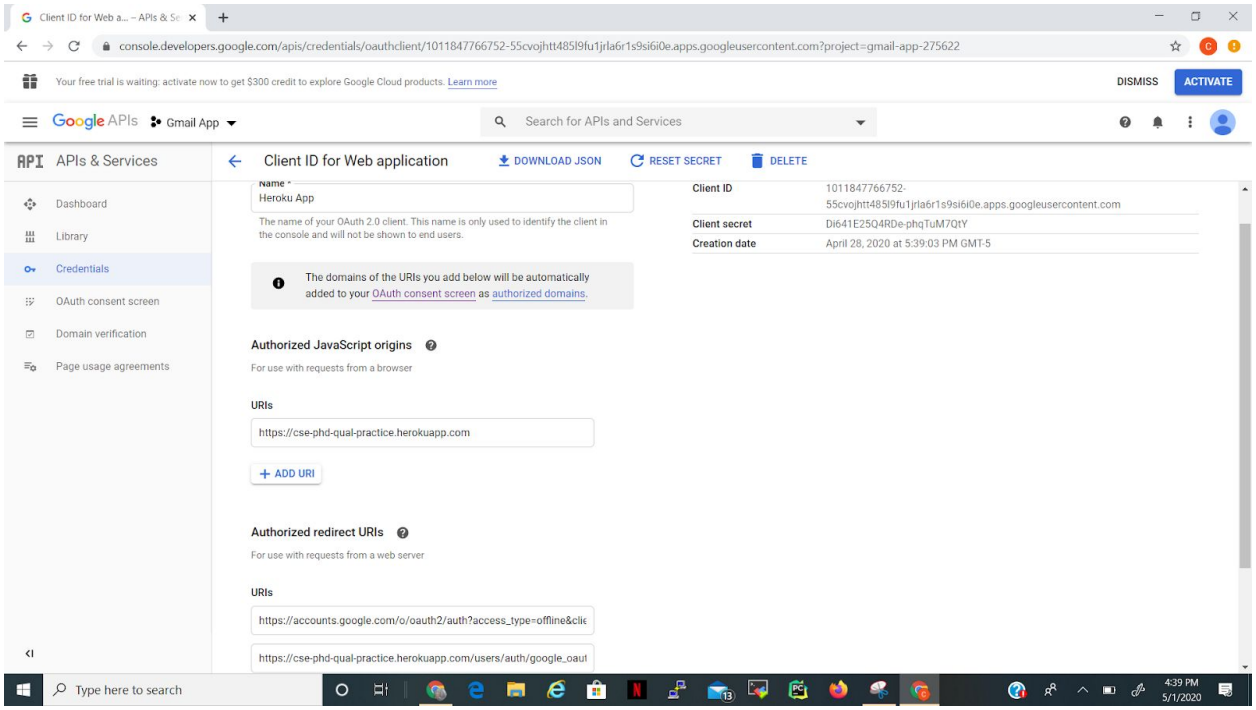
1) Solving Quiz with different number of questions and fixed timer value as solving all the questions and checking at the end if the quiz statistics at the end are displayed or not. Check the total number of questions solved and having non-zero time values, the total time is shown and is the sum of the time per question. Check if the average time is correct.
   Cucumber and rspec tests were added for the feature.

Manual testing of All features:

For testing the features we created a new email address and a facebook developer account. We set up the Google Console API and created a Facebook Application for Oauth2 authentication. The smtp server address for confirm password and reset password were updated. Below are some setup screenshot for the Google Console API:

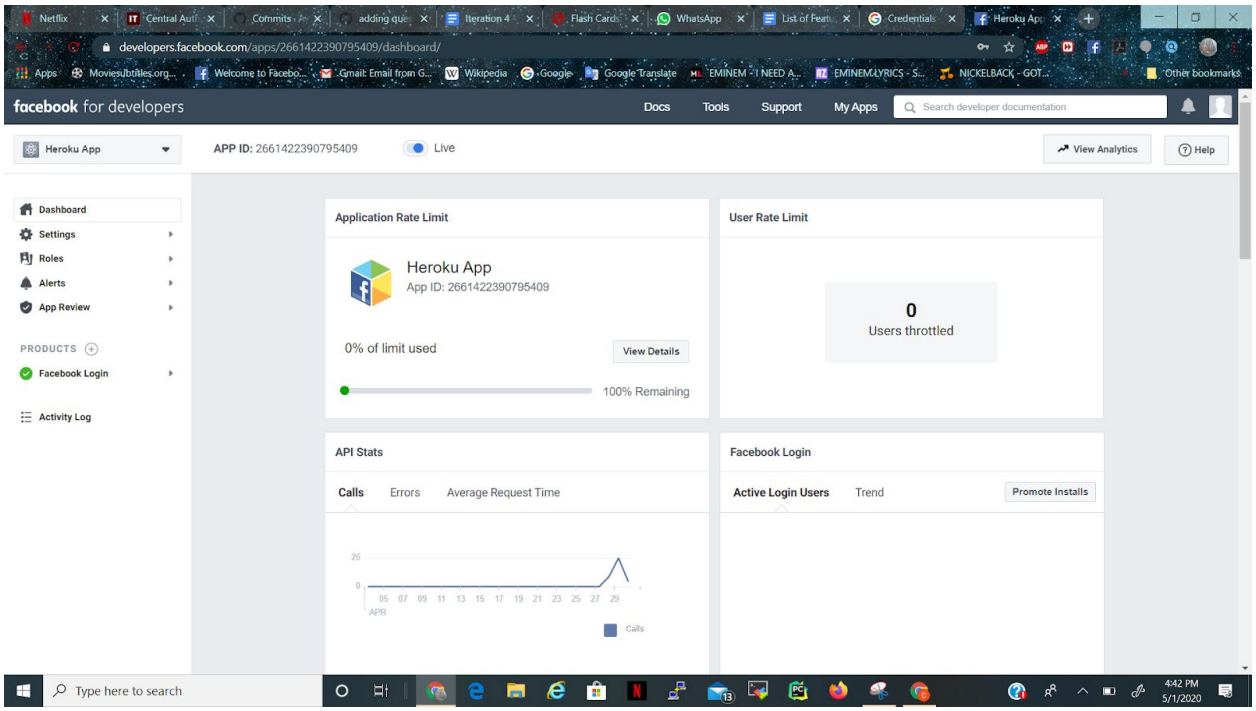
Google Console API

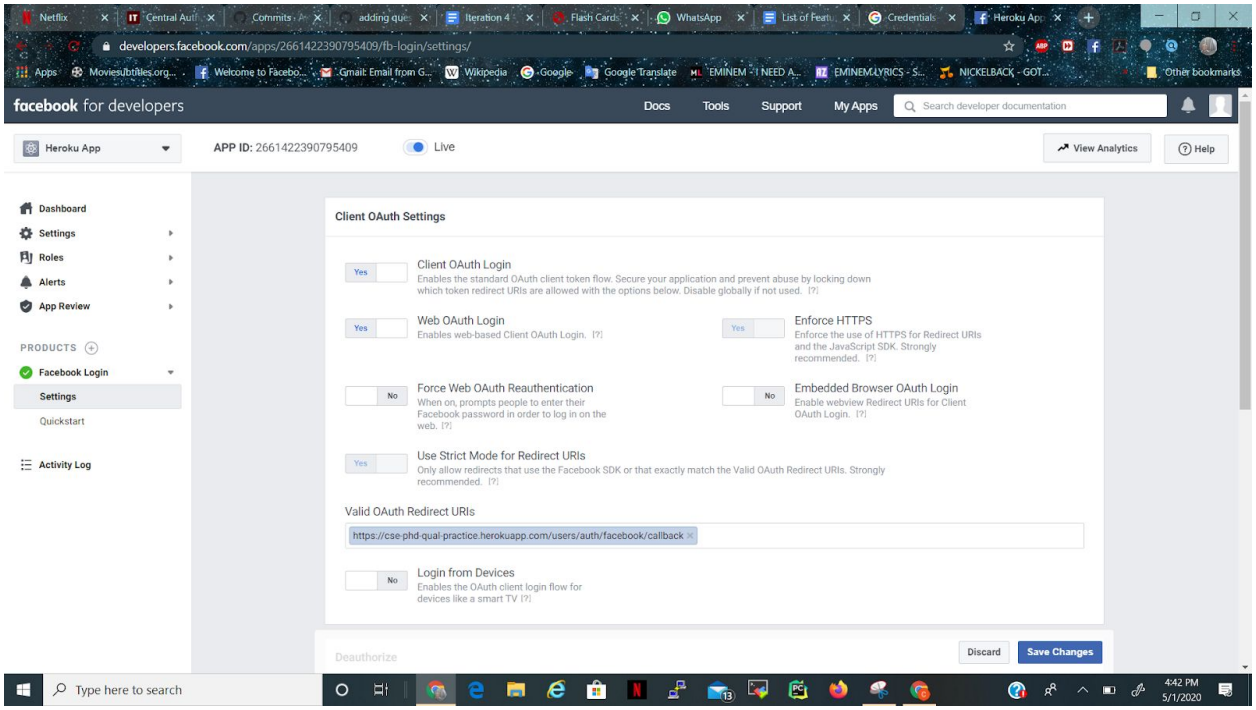


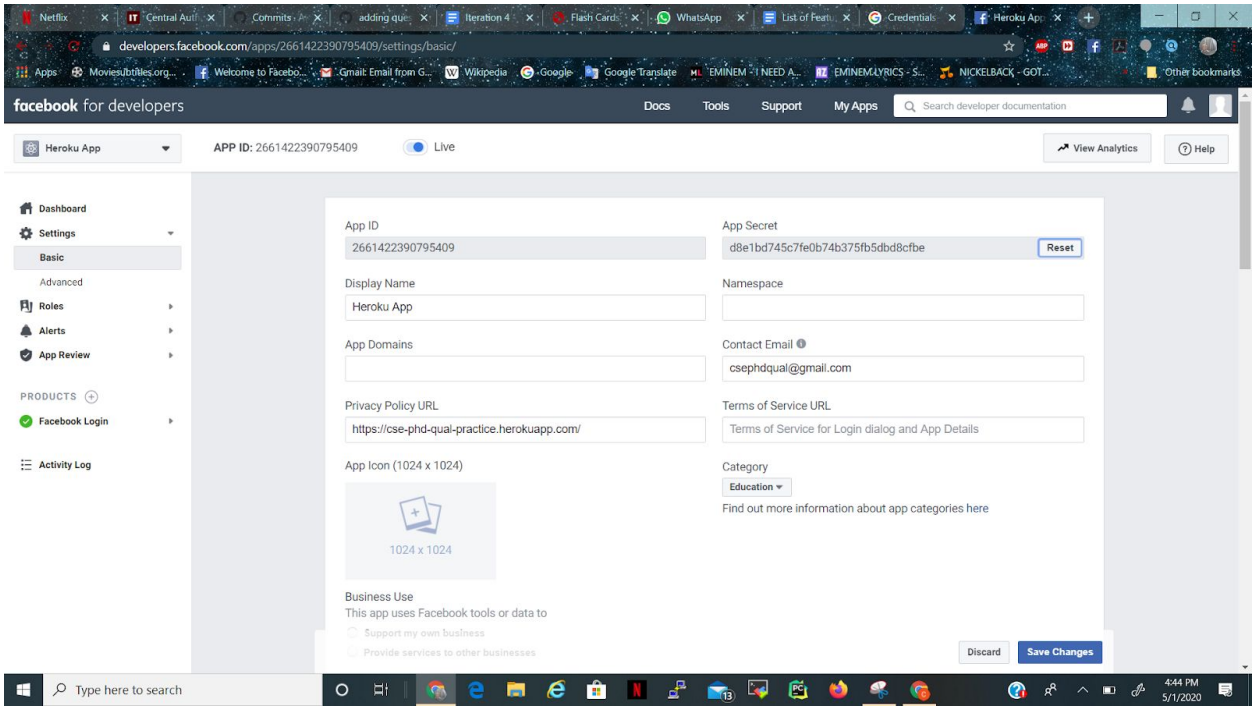


We updated the Google Client ID and secret to the application for the Google Oauth2 authentication.

Below are the screenshot for Facebook Developer Application:







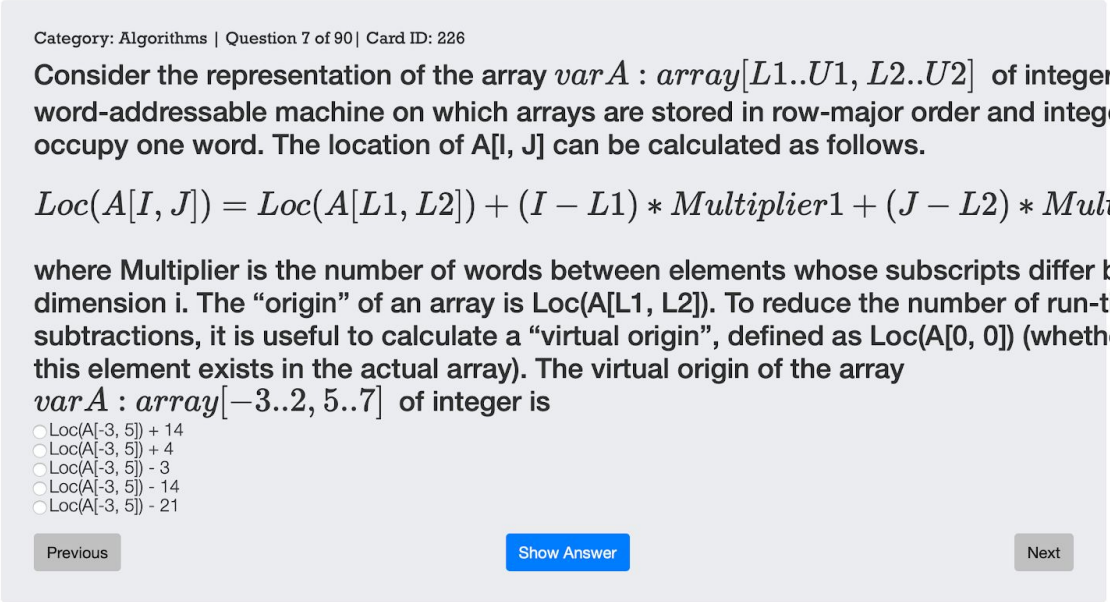
The Application ID and Key were set for the Facebook Oauth2 application in the heroku app.

The details of the Google Account are below:
Username: csephdqual@gmail.com
Password: CsePhdQual123

The details of the Facebook Developer Account are below:
Username: csephdqual@gmail.com
Password: CsePhdQual123

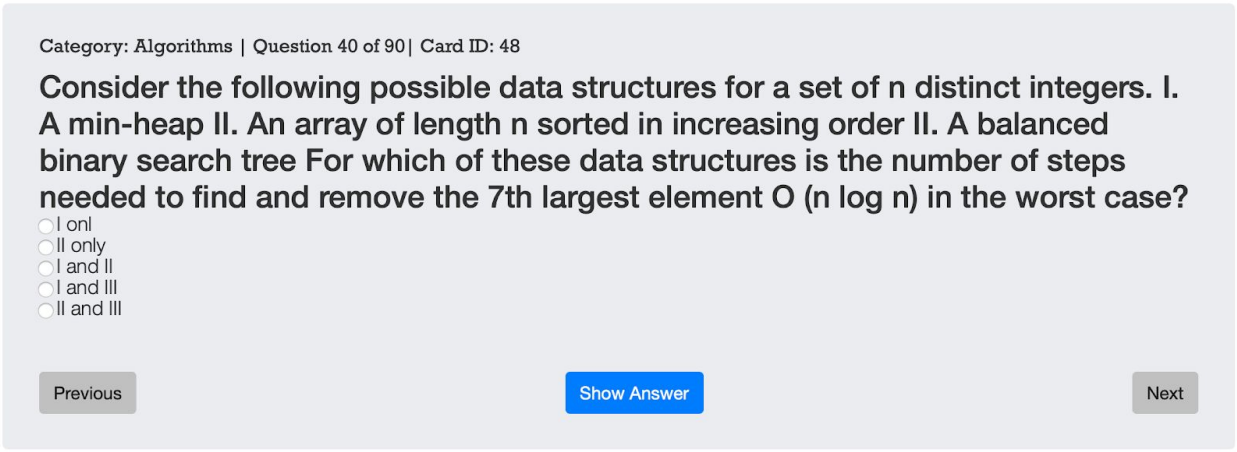
The features mentioned above were tested and some of the bugs that we found are as below:

1) Google plus login having issues because it doesn't show the registered admin field. - Fixed
2) When you login using the Google plus account it doesn't allow you to add new questions or categories. - Fixed
3) Reset Password deletes all non admin accounts and happens only if the user is not registered. This happens when the user is not registered but logins with Google or Facebook. - Not fixed as of now.
4) Card ID: 226 - Not fixed as the mathjax library is having a known issue. Should use an alternate library.
   • Category: Algorithms
   • The card appears to have some scaling issues with the question text

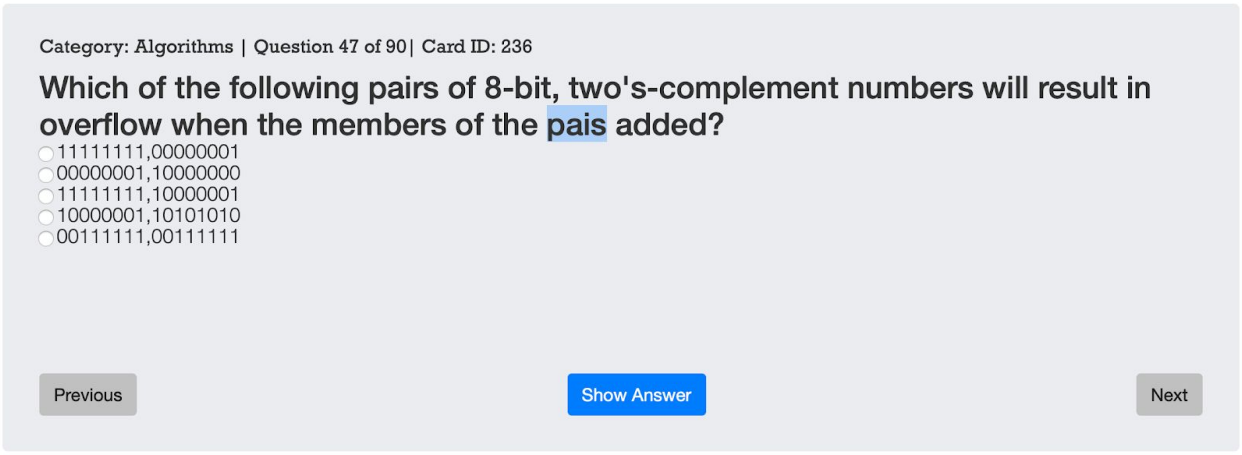


5) Card ID: 94 - Fixed.
   • Category: Algorithms
   • There is no question. However, it's fairly obvious what it would be asking.

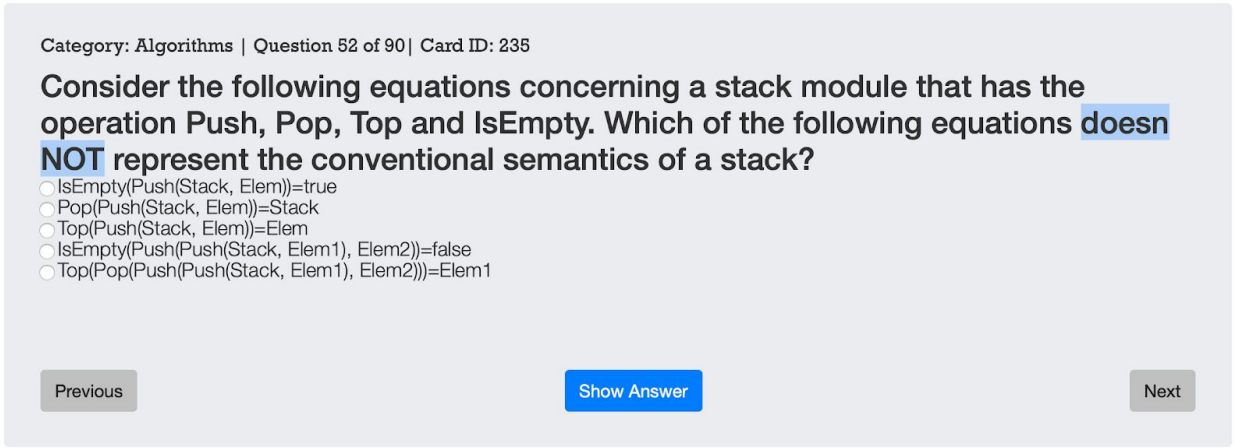
6) Card ID: 48 - Fixed
   - Category: Algorithms
   - Spelling mistake in the first answer



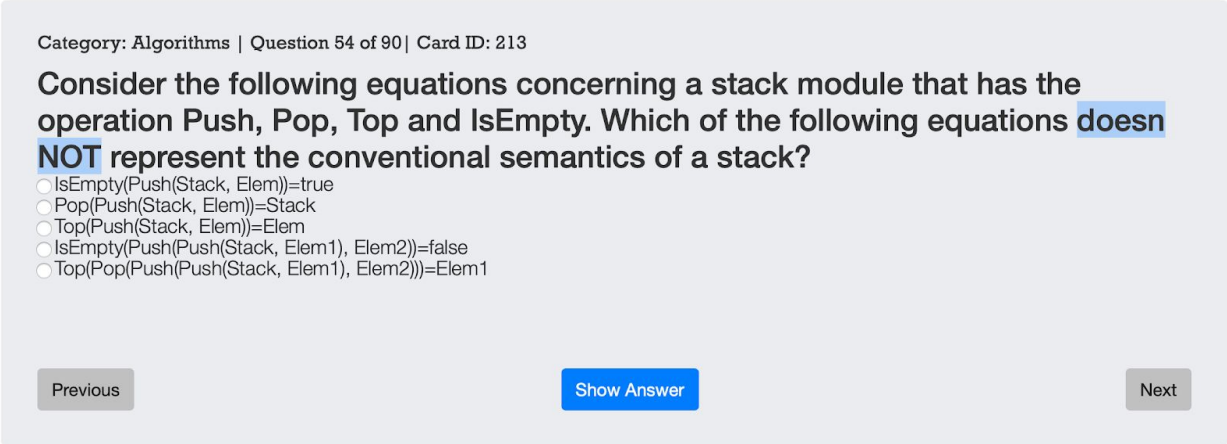
7) Card ID: 236 - Fixed
   - Category: Algorithms
   - Spelling mistake in the question



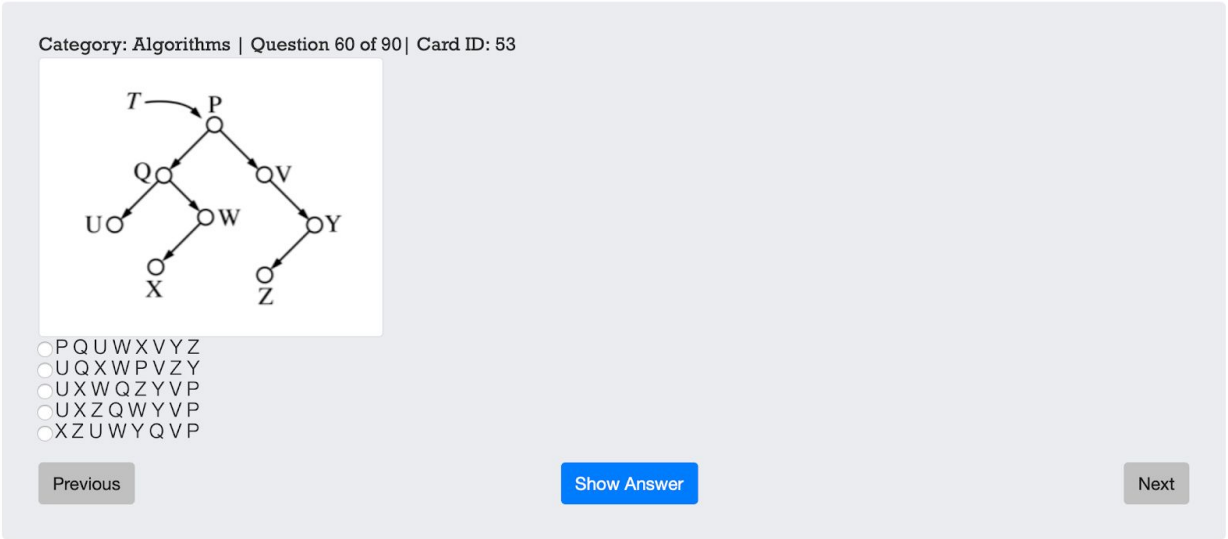
8) Card ID: 235 - Fixed
   - Category: Algorithms
   - Spelling mistake in the question. Assuming it should be “does NOT”



9) Card ID: 213 - Fixed
   - Category: Algorithms
   - Spelling mistake in the question. Assuming it should be “does NOT”
   - Duplicate card. It’s the same as Card ID: 235



10) Card ID: 53 - Fixed
   - Category: Algorithms
   - No question



11) Card ID: 247 & 248 - Fixed
   - Category: Programming
   - Duplicate cards

Category: Programming | Question 7 of 9 | Card ID: 247

Questions 55-57 refer to the following recursive program.

```
function X(N : integer) : integer ;
begin
  if N < 3 then
    X := 1
  else
    X := X(N − 1) + X(N − 3) + 1
end ;
```

As a function of N, which of the following best describes the running time of this function when invoked with the call $X(N)$?

- Linear
- Quadratic
- Cubic
- Logarithmic
- Exponential

Previous | Show Answer | Next

Category: Programming | Question 8 of 9 | Card ID: 248

Questions 55-57 refer to the following recursive program.

```
function X(N : integer) : integer ;
begin
  if N < 3 then
    X := 1
  else
    X := X(N − 1) + X(N − 3) + 1
end ;
```

As a function of $X(N)$, which of the following best describes the running time of this function when invoked with the call $X(N)$?

- Linear
- Quadratic
- Cubic
- Logarithmic
- Exponential

Previous | Show Answer | Next

12) Card ID:11 - Fixed
- Category: Operating Systems
- Spelling mistake in the answer

Category: Operating Systems | Question 1 of 27 | Card ID: 11

Which of the following statements about a remote procedure call is true?

- It is used to call procedures with addresses that are farther than 2^16 bytes away.
- It cannot return a value.
- TIt cannot pass parameters by reference.
- It cannot call procedures implemented in a different language.
- It is used to call procedures at an outer nesting level.

Previous | Show Answer | Next

13) Card ID: 7 & 29 - Fixed
- Category: Operating Systems
- Duplicate cards

Category: Operating Systems | Question 19 of 27 | Card ID: 7

One approach to handling fuzzy logic data might be to design a computer using ternary (base-3) logic so that data could be stored as "true," "false," and "unknown." If each ternary logic element is called a flit, how many flits are required to represent at least 256 different values?

- 4
- 5
- 6
- 7
- 8

Previous | Show Answer | Next

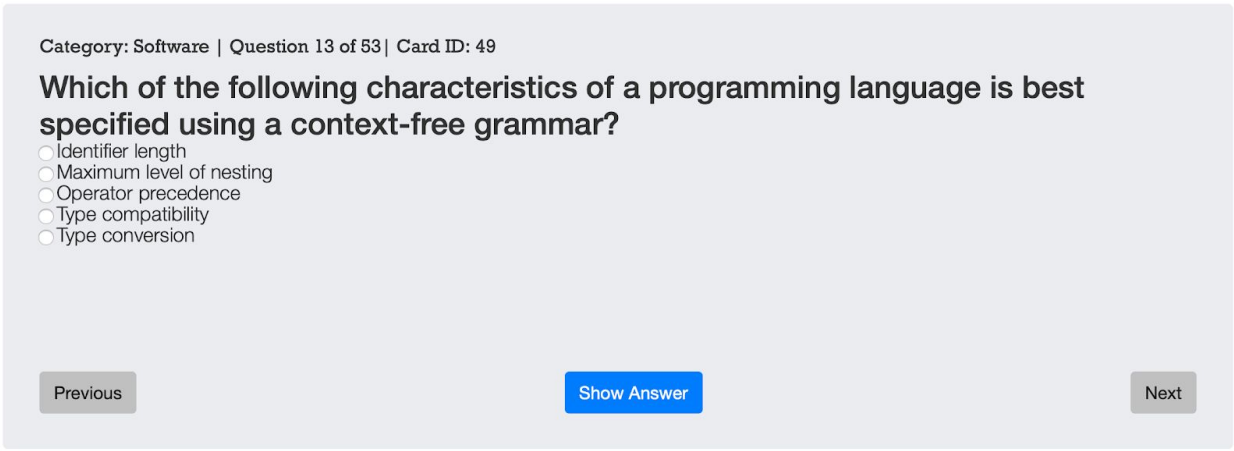
Category: Operating Systems | Question 12 of 27 | Card ID: 29

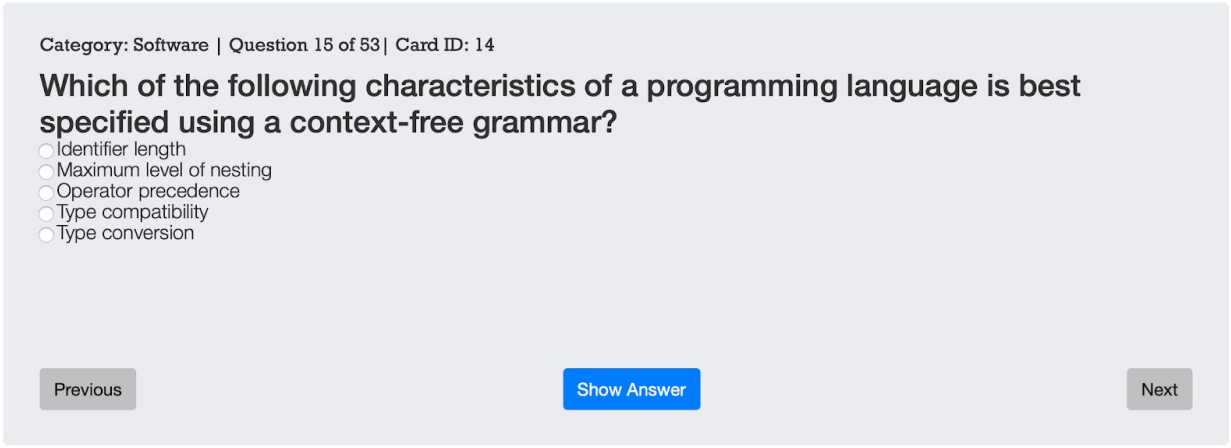
One approach to handling fuzzy logic data might be to design a computer using ternary (base-3) logic so that data could be stored as "true," "false," and "unknown." If each ternary logic element is called a flit, how many flits are required to represent at least 256 different values?

- 4
- 5
- 6
- 7
- 8

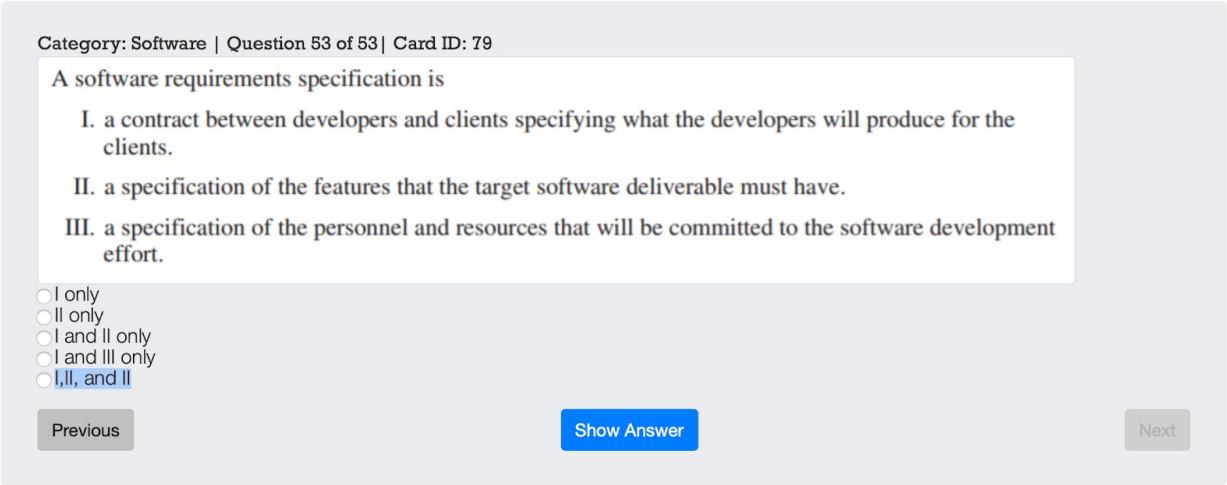
Previous | Show Answer | Next

14) Card ID: 49 & 14 - Fixed
- Category: Software
- Duplicate cards

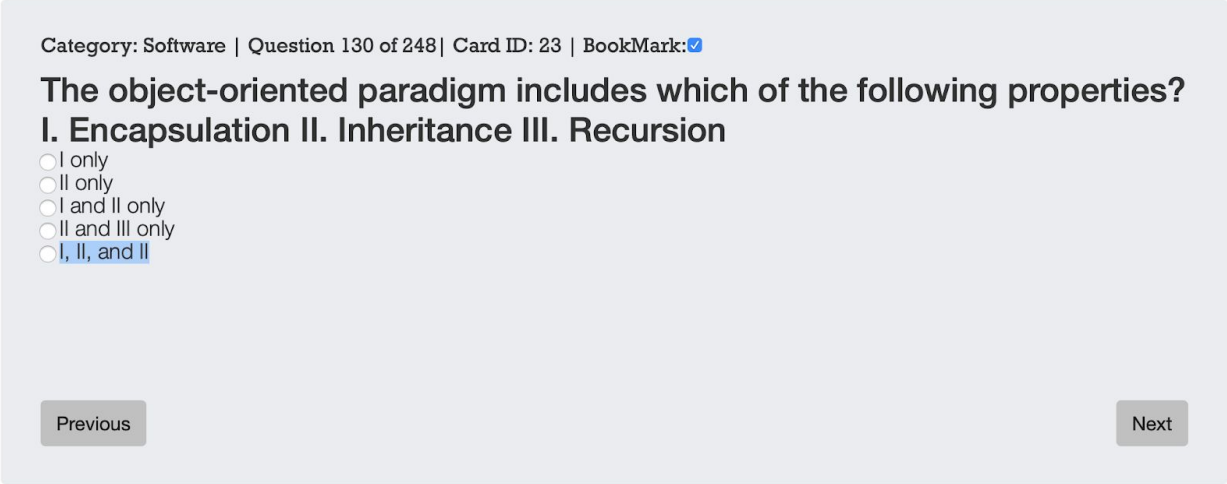




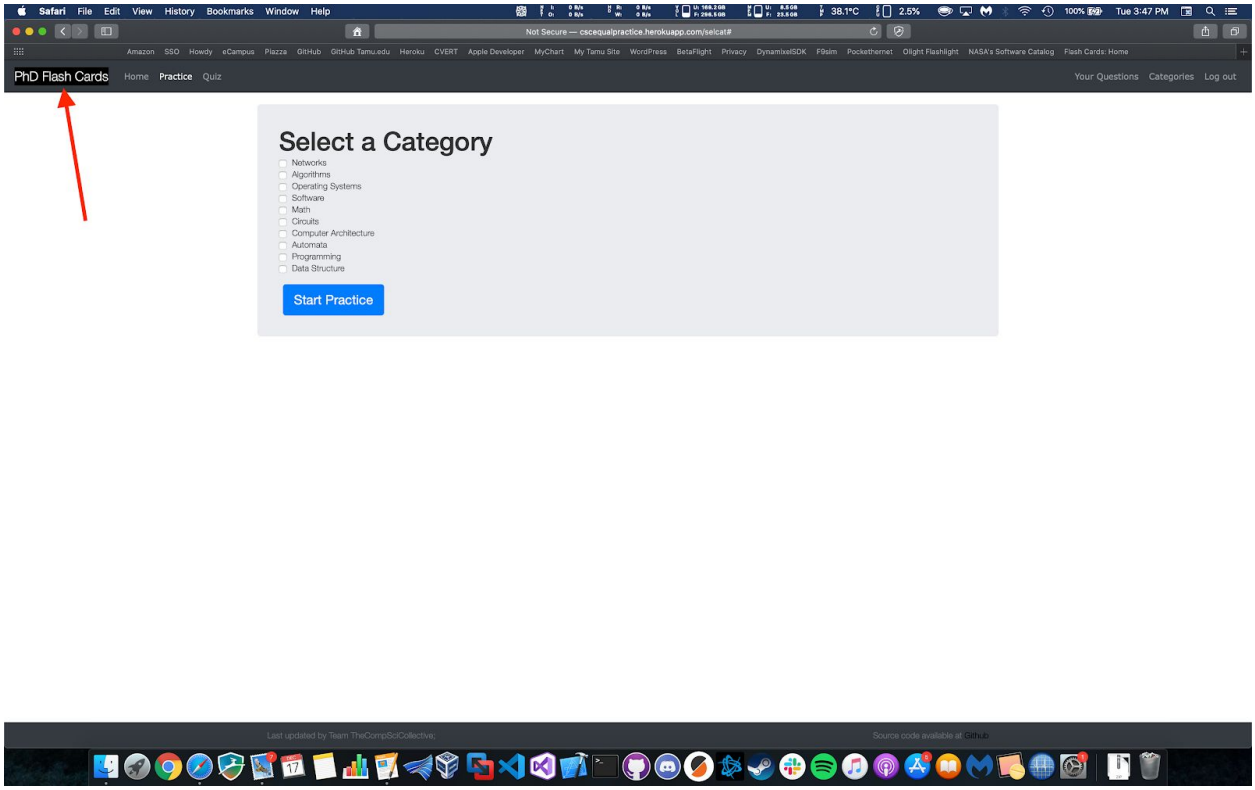
15) Card ID: 79 - Fixed
- Category: Software
- Possible typo in one of the answers



16) Card ID: 23 - Fixed
- Category: Software
- Possible typo in one of the answers



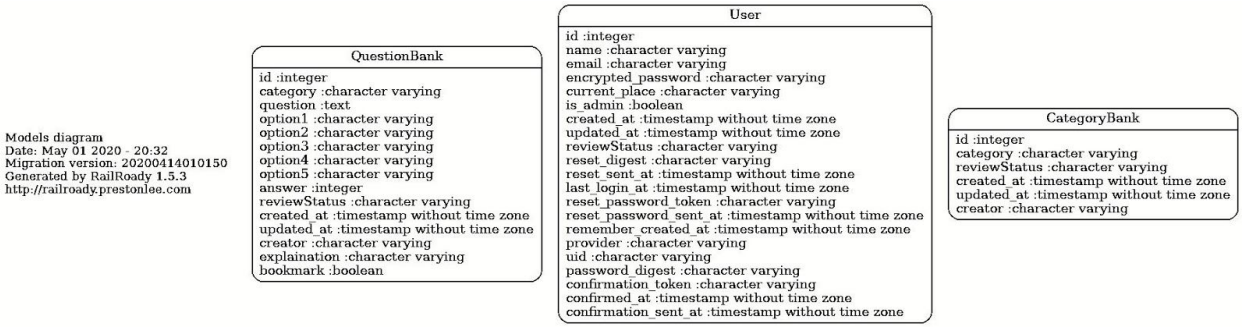
17) PhD Flash Cards button - Changed the redirection to home page
- I'm not sure if anything is suppose to happen when it is clicked
- Since it appears as a clickable button, I clicked it from every page on the website
- Resulting in if you click this button nothing happens



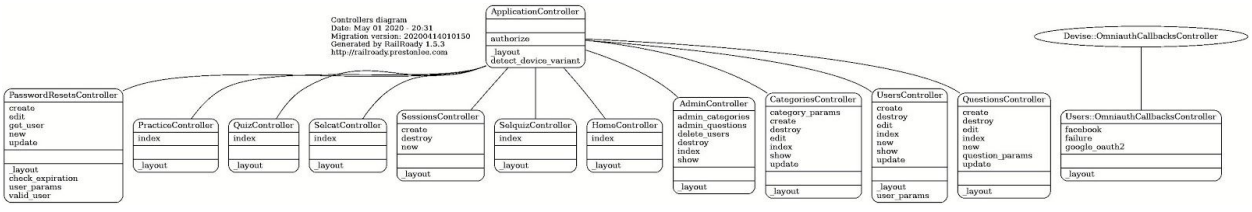
3. UML Diagram:

This section contains uml diagram after the changes.

Model



Controller



5. Customer Meeting:

The team met with Dr. Duncan Walker on April 30th at 11 am and discussed the user stories in detail for the further iterations. The stories that were discussed during the meeting were Quit Session, Quiz Statistics, Forget Password, Register with email verification and the testing all the features and what all we tested. The customer was satisfied with the implementation.

Pivotal Tracker: https://www.pivotaltracker.com/n/projects/2441195
Github Link: https://github.com/Shruthi-Sampathkumar/PhD-Qual-Practice
Heroku Link: https://cse-phd-qual-practice.herokuapp.com/

6. Best practices for using the application:

1) Always register the user before signing into the application using Google or Facebook.
2) Confirm the email for the registration within 2 minutes and if you don't confirm then click on the link you received through email and then it will redirect you to resend the verification email.

7. Future work:

This application is a good self starter for any Phd student who is going to give the PHD Qualification exam. Few user stories that can be added in the future

1) Display the password during login.
2) Display the password when you are doing Forget Password.
3) Add more questions and categories.
4) Deploy it to a paid heroku application and do multi user scaling i.e. with a significant number of users.