CSE PhD Qual Practice System

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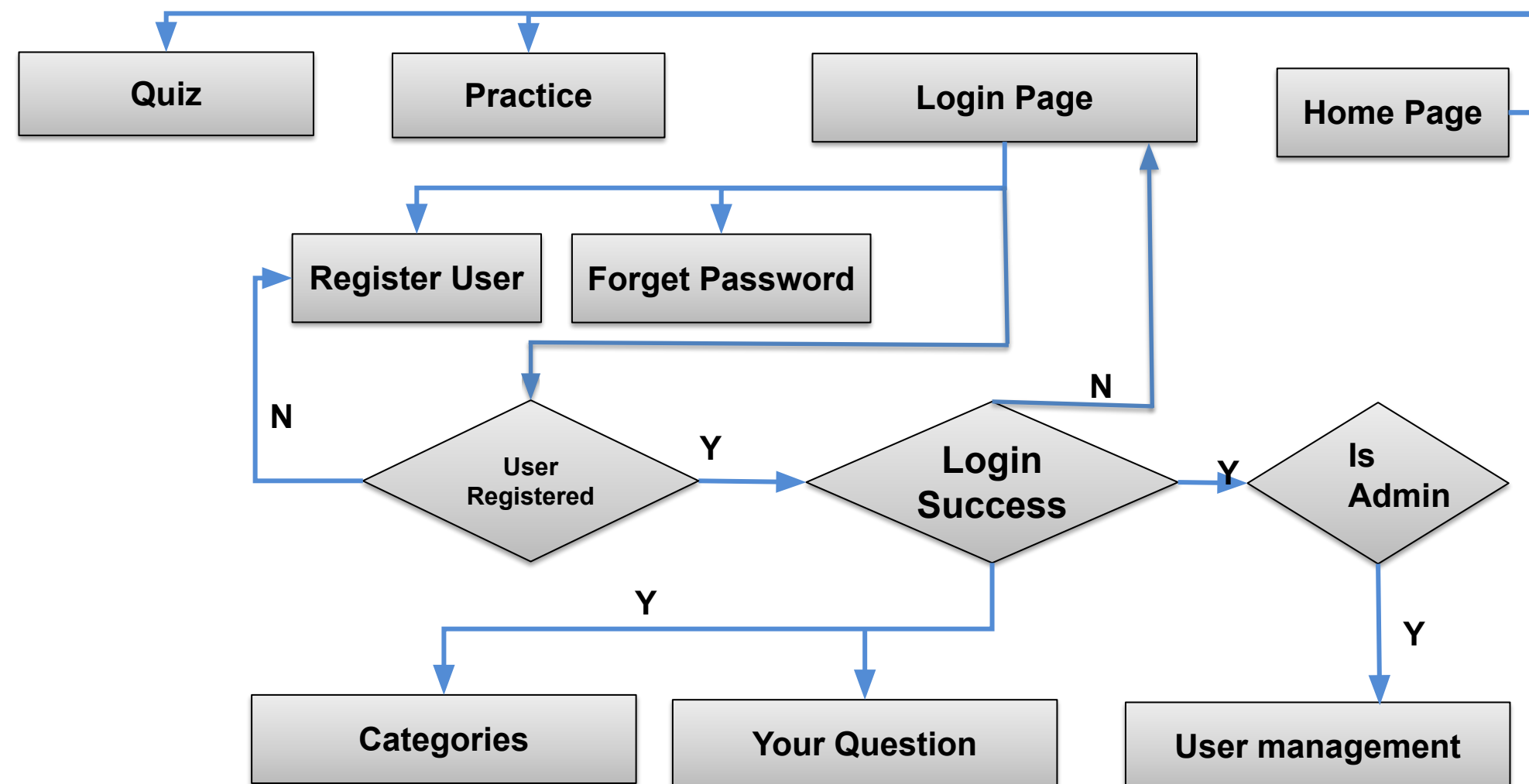Dept. of Computer Science and Engineering, Texas A&M University

Introduction

- Accessible website for practicing PhD Qualification Exam
- Timed Quiz session
- Untimed Practice session with different topic choices
- Can be logged into using Google/Facebook account
- Quiz statistics after attempt
- Add Questions and categories with approval by Administrator
- User management by Administrator

Application Flow

Adding a Timer

- To keep similarity with the real scenario where students have to attend a timed session of the Quiz
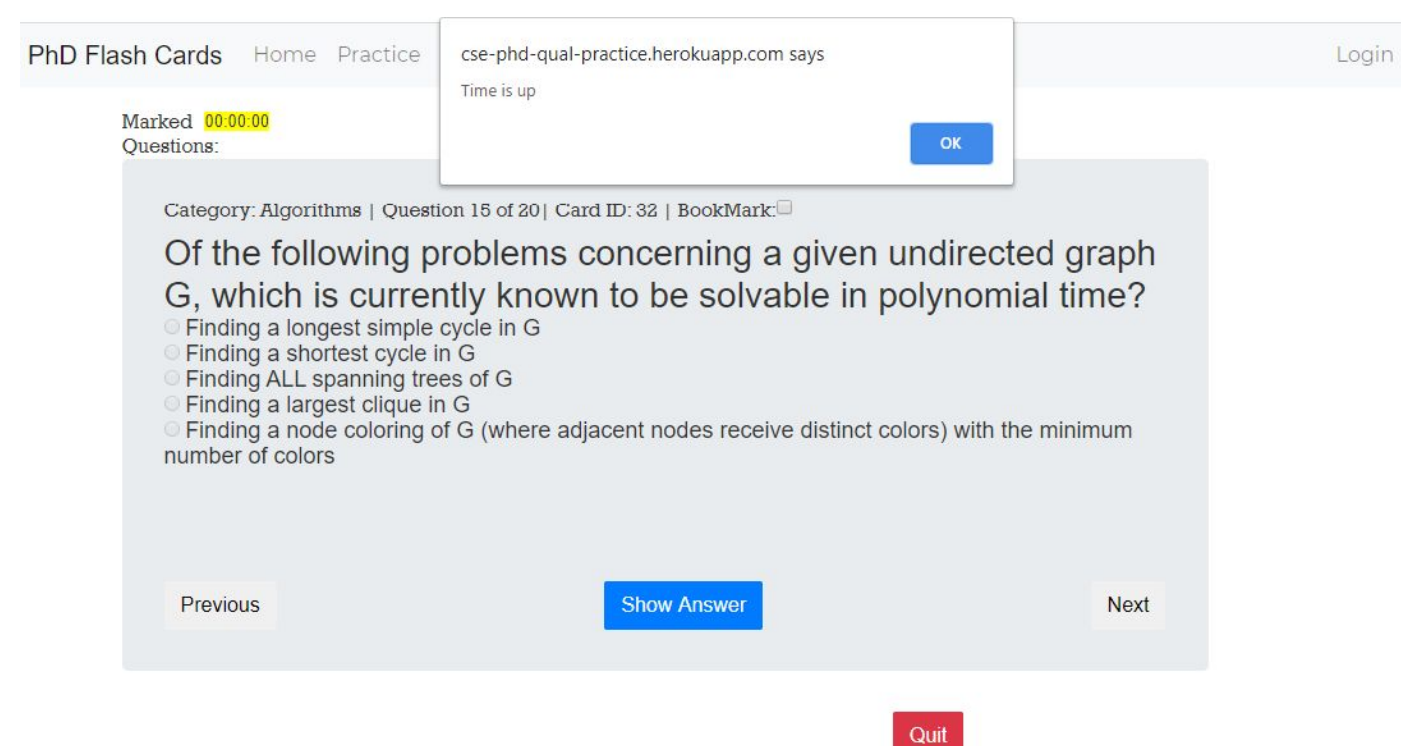- Timer value can be user defined to adjust pace

Figure 1: Timer in Action

Bookmarking Question

- User might want to come back to questions during practice/ quiz
- This features help them keep track of questions by showing links
- Checking the Bookmark checkbox adds links to current question
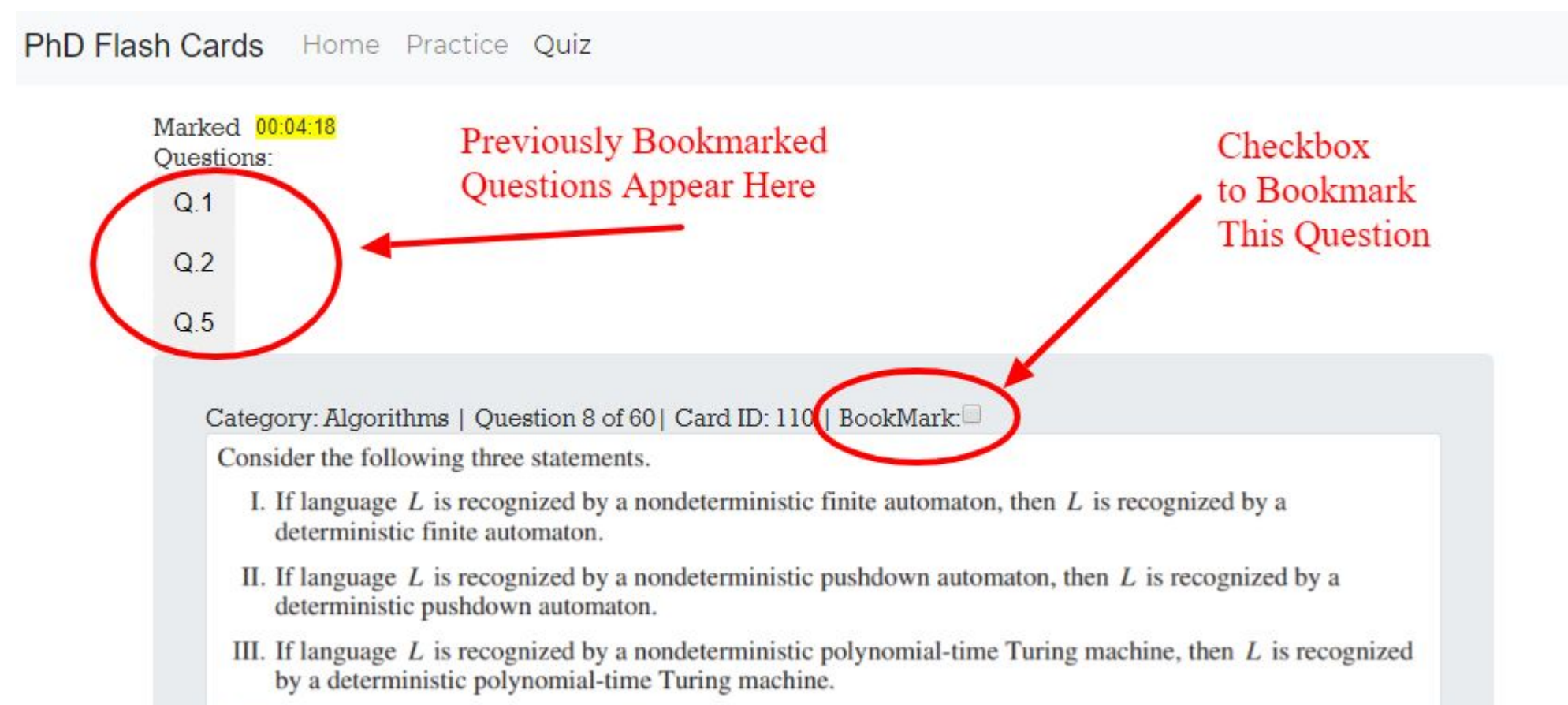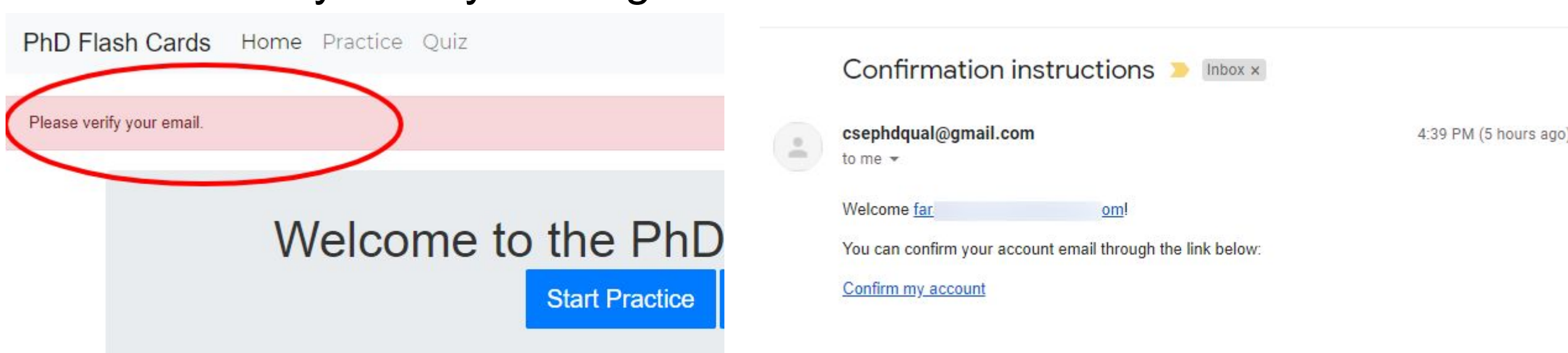- Clicking the bookmarked link will take you to that particular question

Figure 2: Bookmarking a Question

Verifying Email Address on Registration

- After Registering with new email id user has to verify the email address
- User can verify that by clicking on the link sent to their email

(a) User gets verification prompt   (b) Verification Mail sent to the email

Figure 3: Verifying Email Address on Registration

Omni Login using Facebook/Google Account

- Users can create account with Facebook/Google account
- This saves the user from the inconveniences of typing their email
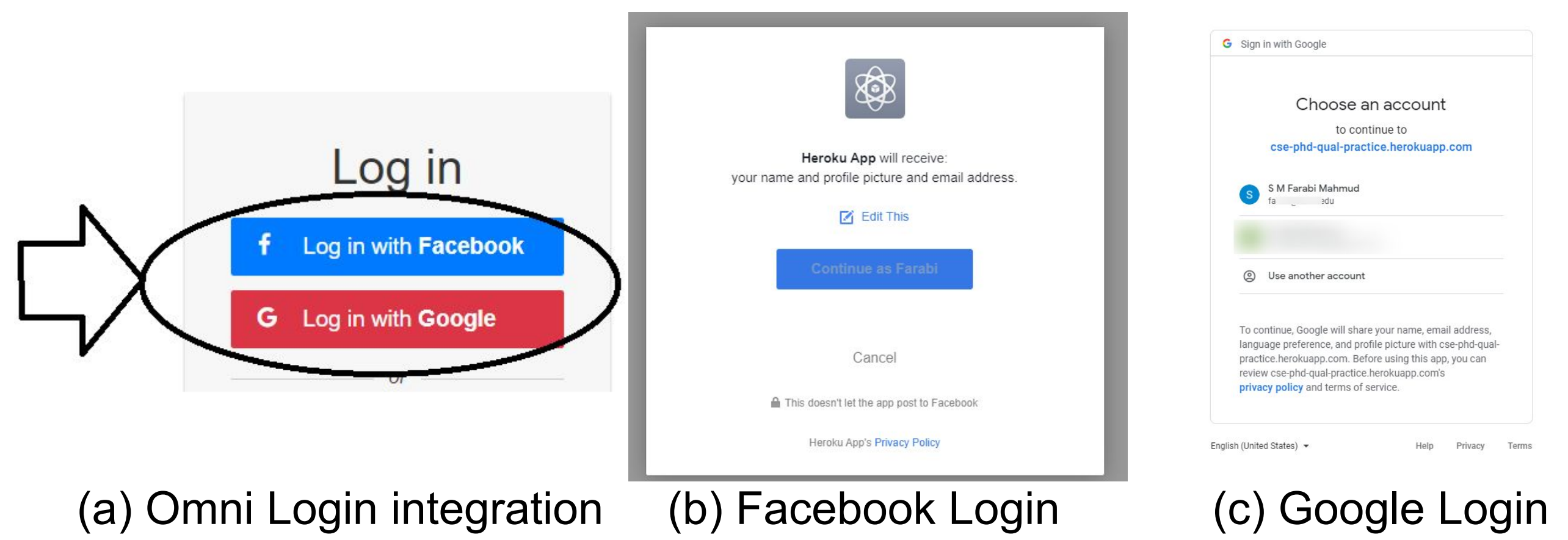

(a) Omni Login integration   (b) Facebook Login   (c) Google Login

Figure 4: Omni Login

Resetting Password using Email

- User is able to reset their account password by clicking on Forgot Your Password
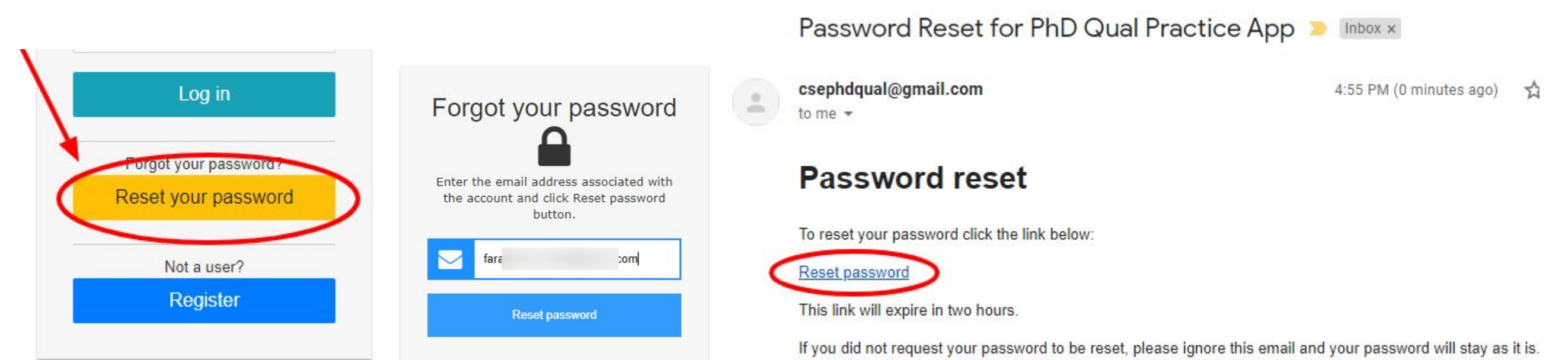

Figure 5: Resetting Password Using Registered Email

Showing Performance Statistics

- At the end of each quiz, users are shown the individual and summary statistics
- Stats include which questions were correct
- Stats also include time taken to solve each of the problem

Figure 6: Performance Statistics

Metrics

- The features implemented were tested using Cucumber and Rspec
- The code coverage using Rspec was increased from 40.67 to 90.14%

- Cucumber tests were written for all the features implemented and increased its coverage

Conclusion

- The project aimed at improving the software used for practice of CSE PhD qualifying exam
- To make the software more user-friendly, the following features were implemented
  - Quiz Timer & Quit - allows timed quiz and quit option ○ Google and FB login - Improves login ○ Email verification – authenticates account ○ Forget Password – Recover account ○ Quiz stats – provides performance insight ○ Bookmarks – allows question transitioning ○ Testing – bug-fixing across platforms.

Acknowledgements