

CHAPTER I

BACKGROUND OF THE PROBLEM

Introduction

The licensing examination is one of the last hurdles that a candidate must face in the licensing process; hence the Professional Regulation Commission has the ultimate responsibility to ensure that the examination meets technical, professional, and legal standards, and, protects the health, safety and welfare of the public by assessing candidates' abilities to practice competently. Once a candidate has passed a licensing examination, the board must be comfortable granting the license, thus assuring the public that the licensee is minimally qualified to practice at the time of initial licensure. (Hertz 2000). Board Licensure Examination for Professional Teachers is a test of the overall knowledge and proficiency of prospective teachers to provide a reliable structure, which the practice of prospective teachers can be measured and proven, and it gives access to continuing growth and development.

Accordingly, instructors commonly use exam reviews to help students prepare for exams and to increase students chances of passing. Moreover, reviews helped a lot in preparation for the board exam. Subsequently, the concepts learned in the undergraduate years were totally refreshed through the problem sets and exercises.

The proposed JHCSC Online BLEPT Reviewer is a system that allows students to have accessible review materials that has features for mock examination. The system have all the review materials which is accessible by the students anytime, therefore it provides a steady flow of learning needed by the students to pass the licensure examination.

Project Context

The JH Cerilles State College is a Level 2 institution in the province recognized by the Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACUP). The following accredited programs of the institution are Bachelor of Science in Agriculture, Major in Crop Science and Animal Science, Bachelor of Elementary Education, Bachelor of Secondary Education Major in English, Filipino, Mathematics and Science, Bachelor of Science in Information Technology and Bachelor of Arts in Political Science. With the institutions continuing thrust for Quality Education, the JH Cerilles State College conducts free review for graduating education students for the upcoming Board Licensure Examination for Professional Teachers (BLEPT). In the extent of the review administered by JHCSC professors, students need to procure copies of the reviewers in a form of photocopies considering it is very relevant for them. Furthermore, during quizzes or mock exams, they manually check the questionnaires and consequently it takes time to determine the results. In addition, the students evaluate themselves through quizzes and exams predisposed by the professor, equally important is the professor's presence to lead them. Inasmuch as this times where the pandemic is still going on, the faculty along with the graduating students have no means to materialize the traditional review. Hence, making the students forgot the knowledge they acquired during classes in the institution.

The proposed system incorporates the capabilities and effectiveness of a reviewer in a form of a website hosted online, where it is accessible any time without the need to procure hardcopies and has features for accessible mock exams for students to assess their knowledge. All the review materials will be accessible by the students anytime, thus it provides a steady flow of learnings needed by the students to pass the licensure examination.

The implementation of the system will be a great help for the students in reducing the cost of procuring numerous review materials and assessing their knowledge through mock exams with automated results. The system is a modern solution to this time of crisis where face to face learning is not yet possible.

Purpose and Description

The project is conducted to help the students have accessible review materials for the coming Licensure Examination. A user must be a bonafide student of JH Cerilles State College. A student will register through their Facebook or Google account, but before they can access the review materials, the administrator of the system will set the permissions of the students. A verified user has access to all features of the system like review materials, and mock exams. Additionally, a user can select among the list of categories of subjects available in the system and the quiz module is open to the users. Furthermore, they have their own dashboard where the quiz results are recorded and displayed. The proposed system is accessible not just on desktops and laptops but also on mobile phones because it is designed to be responsive to cater the situation of the users.

Objective of the Study

General Objective

The researchers aim to develop a JHCSC Online LET Reviewer to help the students prepare for the Licensure Examination, by providing accessible review materials and mock examination features.

Specific Objective

Researchers aim to:

1. Develop JHCSC Online LET Reviewer that provide accessible review materials.
2. Design a tool that JHCSC students can use to optimize their review.
3. Implement JHCSC Online LET Reviewer basically for the benefits of the JHCSC students.
4. Test the effectiveness of the system from the users' and system experts' responses.

Scope and Limitations

The system is intended for the students of JHCSC who are taking the Licensure Examination. It focuses on providing accessible review materials, quizzes and mock examination for the students of JHCSC. The JHCSC Online BLEPT Reviewer is for education students and its review materials focus on the Licensure Examination for Teachers.

Definition of Terms

JHCSC Online BLEPT Reviewer System. A system which is intended to be used by the students to access review materials for the Licensure Examination for Teacher through online.

Unverified User. The term use for a user which is not yet verified by the admin of the system. It has limited access to the system, such as viewing home and review modules.

Verified User. The term use for an account that is approved and verified by the administrator of the system. It has access to the features of the system like quiz module, mock exams and has its own dashboard.

Administrator. The term use for an account which has the permission to approved or reject a user's registration.

Major. A specific subject that students can specialize.

CHAPTER II

REVIEW OF RELATED STUDIES AND SYSTEMS

Technical Background

The proposed study uses the following application: MongoDB Atlas, Express.js and Node.js for backend and Bootstrap as UI framework on frontend. The MongoDB Atlas is an online, non-SQL database and used in storing data and information of the review materials and the users. The Express.js is a framework used to build web application and APIs. The Node.js a backend runtime environment for Javascript to execute outside web browsers. The frontend uses Bootstrap UI for responsive design of the system. Therefore, by using the above-mentioned software, the system can guarantee a website that is accessible to the students. They can access anywhere given that they have internet connectivity.

Program Specifications

Software Specifications

- VS Code Version 1.53
- MongoDB Atlas Version 4.4.4
- NodeJS Version 14.16.0

Hardware Specifications

- ❖ Laptop/Desktops Processor: Intel (R) core (TM) i3 7100U 2.50 GHz, 4 GB.
- ❖ Internet Connection DSL or Wireless 5Mbps

Related Studies

Foreign

ANGEL Learning Management System

According to Kimble (2007) *Advances in Physiology Education*, The faculty of St. George's University Medical Physiology implement a campus-wide learning management system called ANGEL which students accessed using their personal username and password. The faculty use unsupervised online quizzes to provide a flexible supplementary learning tool for students without overwhelming a small faculty.

Quiz System

According to Kazuaki, Aoki and Ito (2014) *Modern Education and Computer Science*, they have been conducting quizzes online for several courses of mathematics and statistics and computer sciences by using a web based system called QDB (abbr. Quiz DataBase). The authors as college teachers of National Fisheries University make questions for questionnaire and quizzes which consist of those problems and register them. Teacher's accesses to administration pages of QDB require a login for securities and student's accesses to exercise pages require a login for storing student's history to display what has been done.

The study of Ibrahim (2018) for the Universiti Sultan Zainal Abidin, Online Quiz System is a web-based quiz system accessible by students. It is a system by which students can sit in a quiz which needs no pencil and paper. Lecturers can set up a quiz which is it will auto-grade itself. Students can answer the quiz from any location and get fast result. The system help lecturers save their time because of automated marking.

Local

Portal using MOODLE

The study of Ayuyang (2019) Interactive Learning (iLEARN) portal was designed using MOODLE to enable students and teachers to exchange knowledge not only inside the classroom but even online - anytime and anywhere. The main purpose is to help educators to create online courses which bring teachers and students to collaborate and interact online.

E-Math Version 2.0

The study of Angeles, Fajardo, and Tanguilig III (February 2015) E-Math Version 2.0 is a learning management system (LMS). Its main objective is to assist math reviewers in their Engineering Licensure Examination in the Philippines. One of its features includes automatic evaluation feedback. This is designed in order to easily assess the student's ability in mathematics. The capability of the system to track student profile while managing their progress in the activity became its advantage over its predecessor. The project runs online via web server and only accessible using windows XP operating system or a higher OS.

Online Exam for Distance Educators Using Moodle

According to Borromeo (2013) of UPOU College Los Baños, Laguna, Philippines, Online examinations are used in the distance and e-learning mode of education to evaluate student's knowledge using modern computer technology. They aim to determine the features of an online examination system desired by the teachers in the university.

Based on the related studies mentioned above, the researchers were given idea to come up with proposing and developing a system for the online review in a form of examination and quizzes. The JHCSC Online BLEPT Reviewer is a timely solution where face-to-face review setting and assessment are not possible.

Chapter III

DESIGN AND METHODOLOGY

Research Methodology

The method used by the proponents in developing the proposed study is the 4D Model.

It has four effective phases with increasing complexity: define, design, develop and deploy.

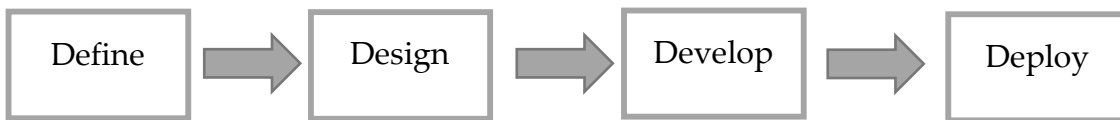


Figure 1-4D Model

Define Phase

The define phase is the most important phase because it is the basis of the proponents to develop the system. The proponents gathered the data to identify the problem and determine the cause of problem and decide on what will be the solution to that problem.

The proponents sent a letter of permission to Dr. Joeann D. Palahang, the Dean of School of Teacher Education to conduct a study about the students taking the Review Course. During the data gathering, the proponents conducted an interview with Mrs. Ruby Redoblado, the instructor in charge of the Review Course and found out that they encountered problems in distributing the review materials to students because of the pandemic. Conducting a review is not possible and students will be unprepared for the coming BLEPT Exam. They also use manual method in checking the review materials.

Requirement Analysis

Current Technical Situation

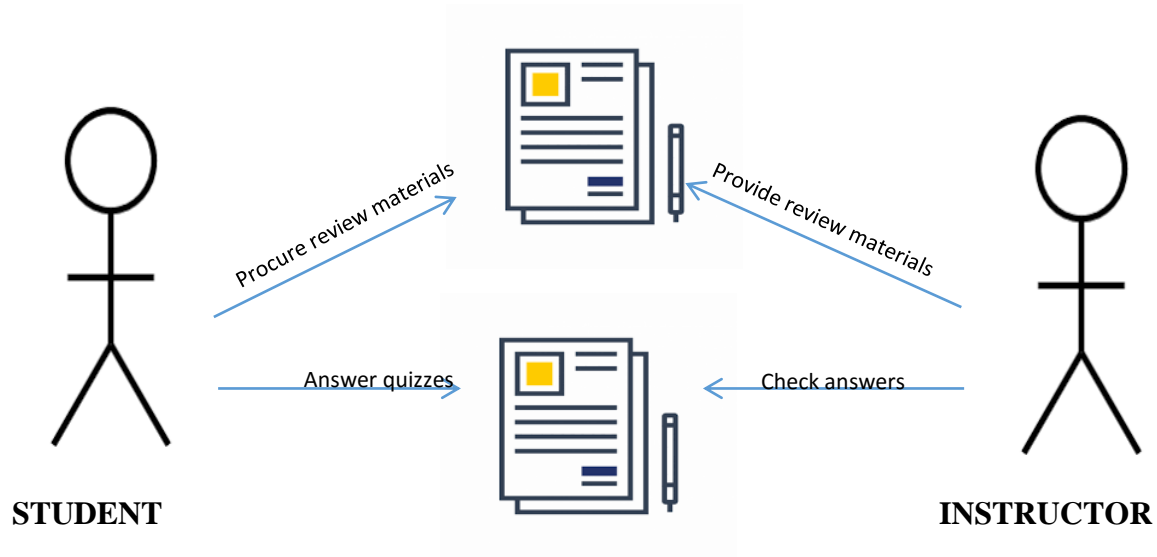


Figure 2. Current Technical Background Diagram

The figure above shows how costly and hassle for a students to procure review materials. If they want to reproduce it costs time, money, and the need to bring the review materials during review schedules. The instructor can provide the review materials but they still find it difficult to have self-study because they cannot assess their knowledge on their own.

The proposed website allows the student to have accessible review materials with their desktop or mobile devices and it has features like quizzes and mock exam and can automatically check and record students' scores.

Design Phase

Design phase, this is where the researchers plan the preferred design of the system which must be user friendly and easy to understand. In this phase, UI's of both users in the system are carefully design and label of accessibility are defined.

The following diagram illustrates the general context of JHCSC Online BLEPT Reviewer and other details necessary in the development of the system.

Context Diagram

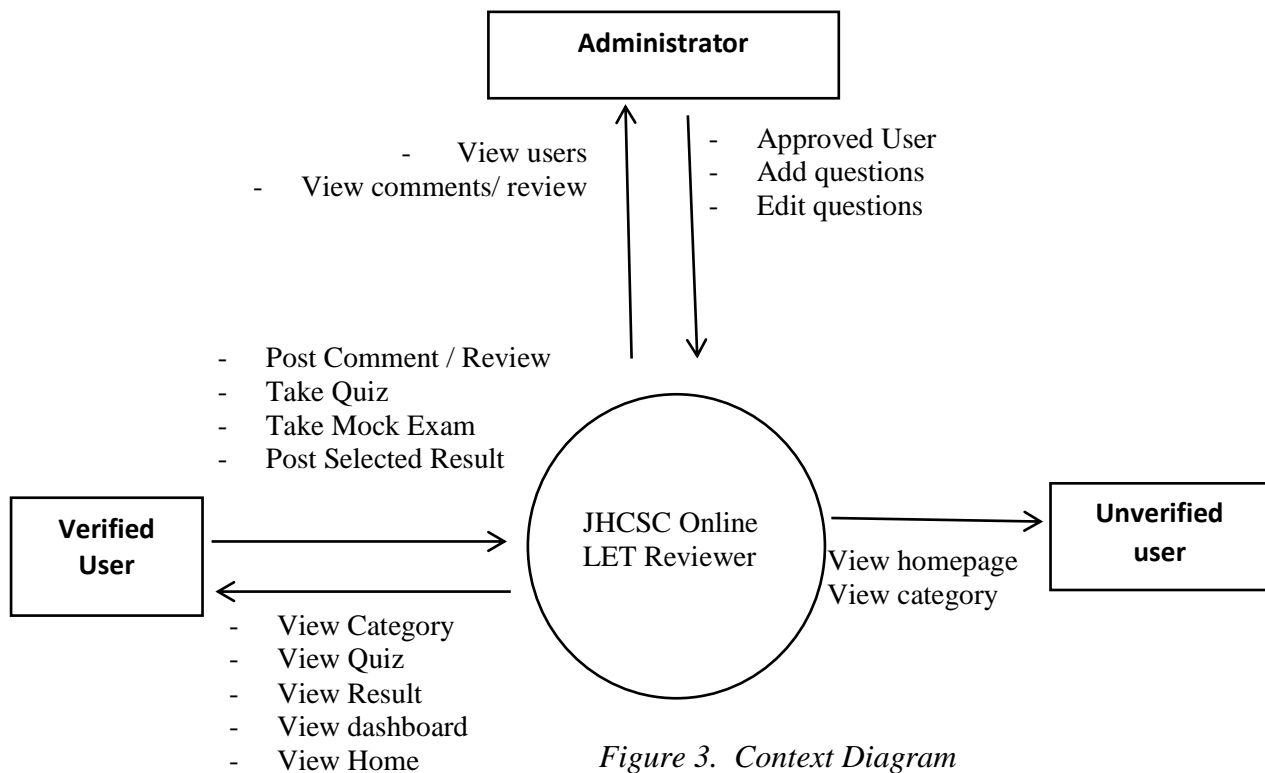


Figure 3. Context Diagram

The Admin approves user accounts, view comments or reviews and updates questionnaire of the system.

The Verified User (the one who signed up and verified) can interact with the system by viewing categories, answering the questionnaire and taking the mock exam. They can also view the result in their own dashboard.

Lastly, an unverified user (account pending approval) can only view categories but they need to be verified to unlock other features.

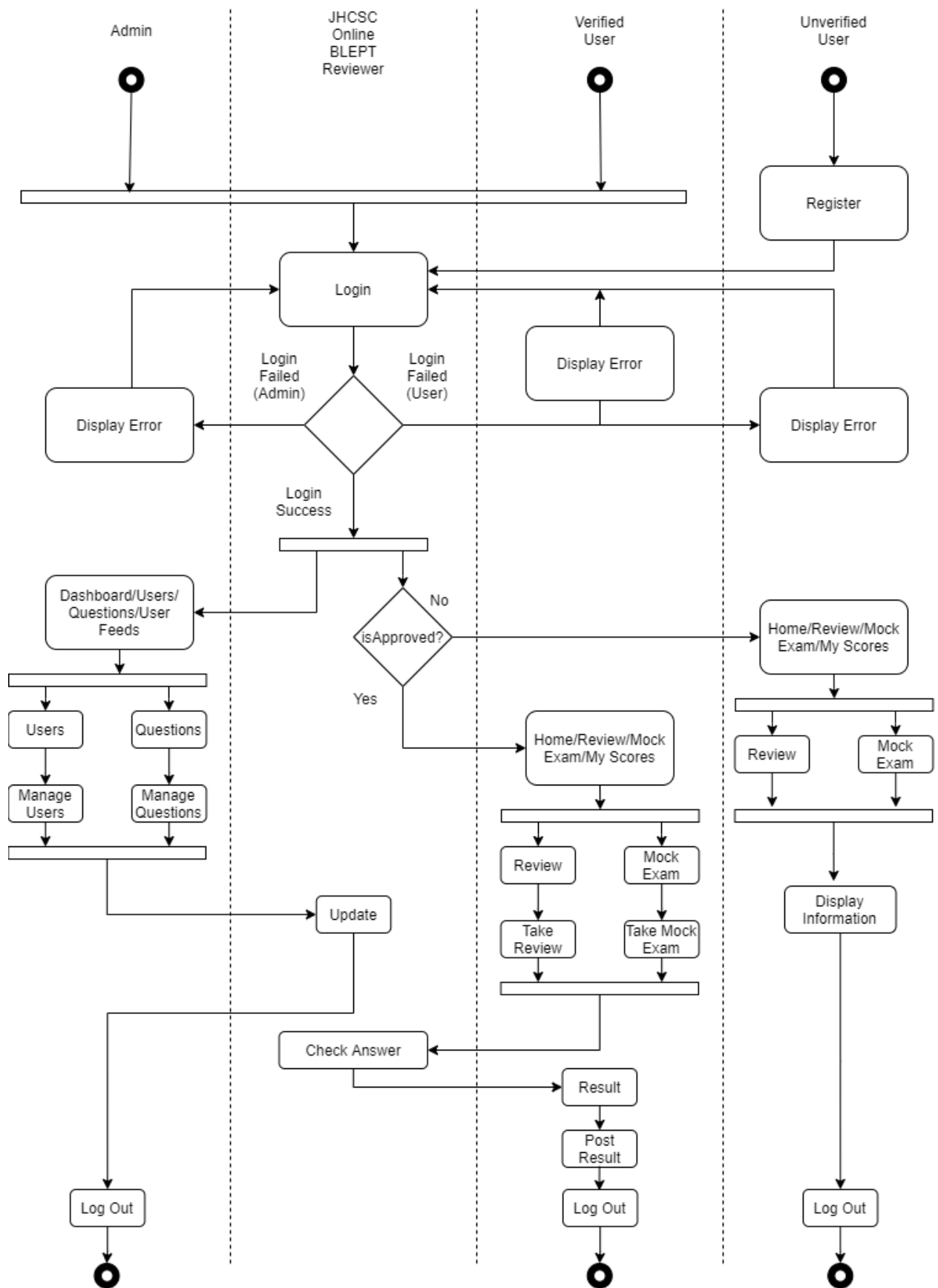


Figure 4 - Activity Diagram

Figure 4 shows the activity diagram of the proposed system. When students access the system, the login page will be displayed. A student who is not yet verified can only comment, view home, categories of reviewers in the review and mock exam module. An unverified user cannot answer the questionnaire. In this stage, the user has a read-only privilege to the system which means they can just view categories from the system and they cannot take the mock exam or view questions. Then they can choose to sign-in which is either to log-in to their account or create a new account if they do not have one. When they log-in or sign-up, additional privileges will be provided to them, once they are approved by the Administrator. They now have their own account that can be used to interact with the system. They can now take mock exams, review, and post comments.

Use Case Diagram

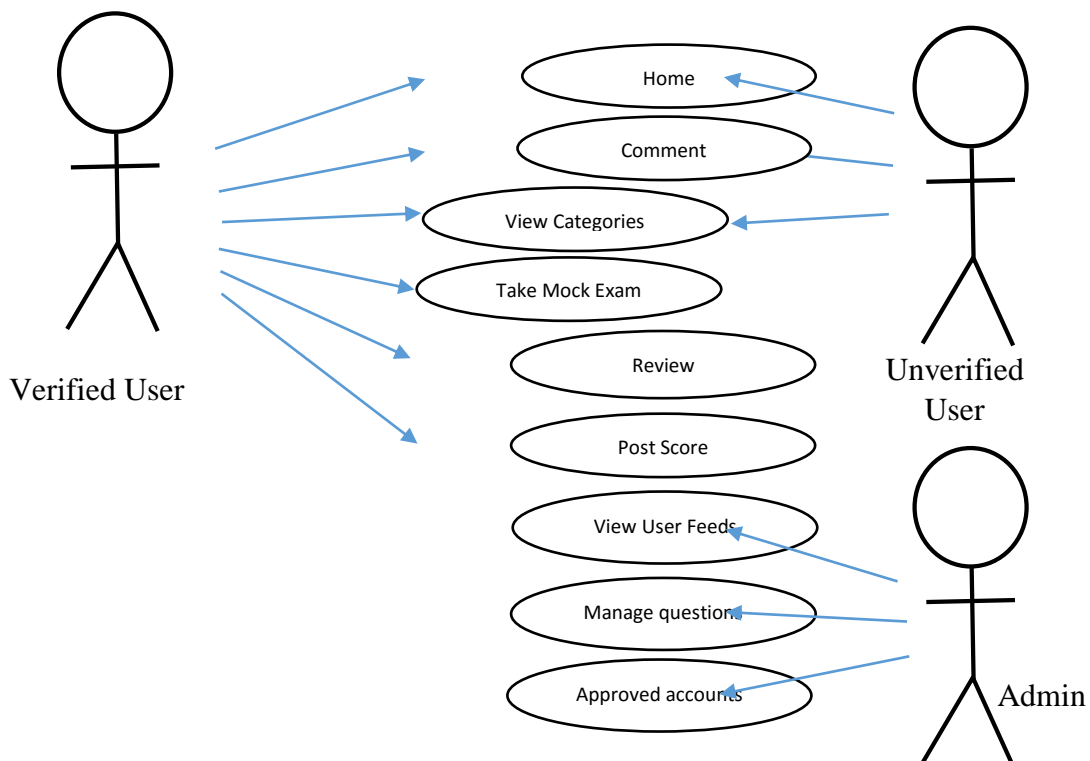


Figure 5. Use Case Diagram

Figure 5 shows the users of the proposed system with the corresponding modules that they can access.

An unverified user can only perform the following view home, comment, and view categories.

A verified user has its own account. So, the user can now take mock exams and input answers to the system and posting results, comment to a particular post in the system.

The administrator will accept or approve an account if the user is included in Review Course students list. The administrator can also add and edit questions to the system. It has a separate module that is specially designed to manage the overall data in the system.

Name	JHCSC Online BLEPT Reviewer
ID	UCD_001
Description	The system administrator performs accounts approval and manages questions
Actor	Admin
Preconditions	Admin verify and confirm the registration of each user.
Postconditions	The system administrator performs accounts approval and manages questions
Main Course	<ol style="list-style-type: none"> 1. The Admin instructor log in to the system. 2. The system confirms access. 3. The Admin can approved or disapproved users registration request 4. The Admin manages the quizzes.
Alternate Courses	AC 1: Administrators login details are incorrect. <ol style="list-style-type: none"> i. Displays error message. ii. Return to Main Course step1.

Table 1 Use Case Description (Review Course Instructor)

Name	JHCSC Online BLEPT Reviewer
ID	UCD_002
Description	The verified user can take review and mock exam
Actor	Verified User
Preconditions	Sign in account
Postconditions	Take review and mock exam
Main Course	<ol style="list-style-type: none"> 1. The user login in account 2. The user can take the review. 3. Post the result
Alternative Course	AC 1: User login details are incorrect. <ol style="list-style-type: none"> i. Displays error message. ii. Return to Main Course step1.

Table 2 Use Case Description (Verified user)

Name	JHCSC Online BLEPT Reviewer
ID	UCD_003
Description	The unverified user wait for account approval
Actor	Unverified User
Preconditions	Register an account
Postconditions	Account Approved
Main Course	1. Register 2. Wait for account approval
Alternative Course	AC 1: User login details are incorrect. i. Displays error message. ii. Return to Main Course step1.

Table 3 Use Case Description (Unverified user)

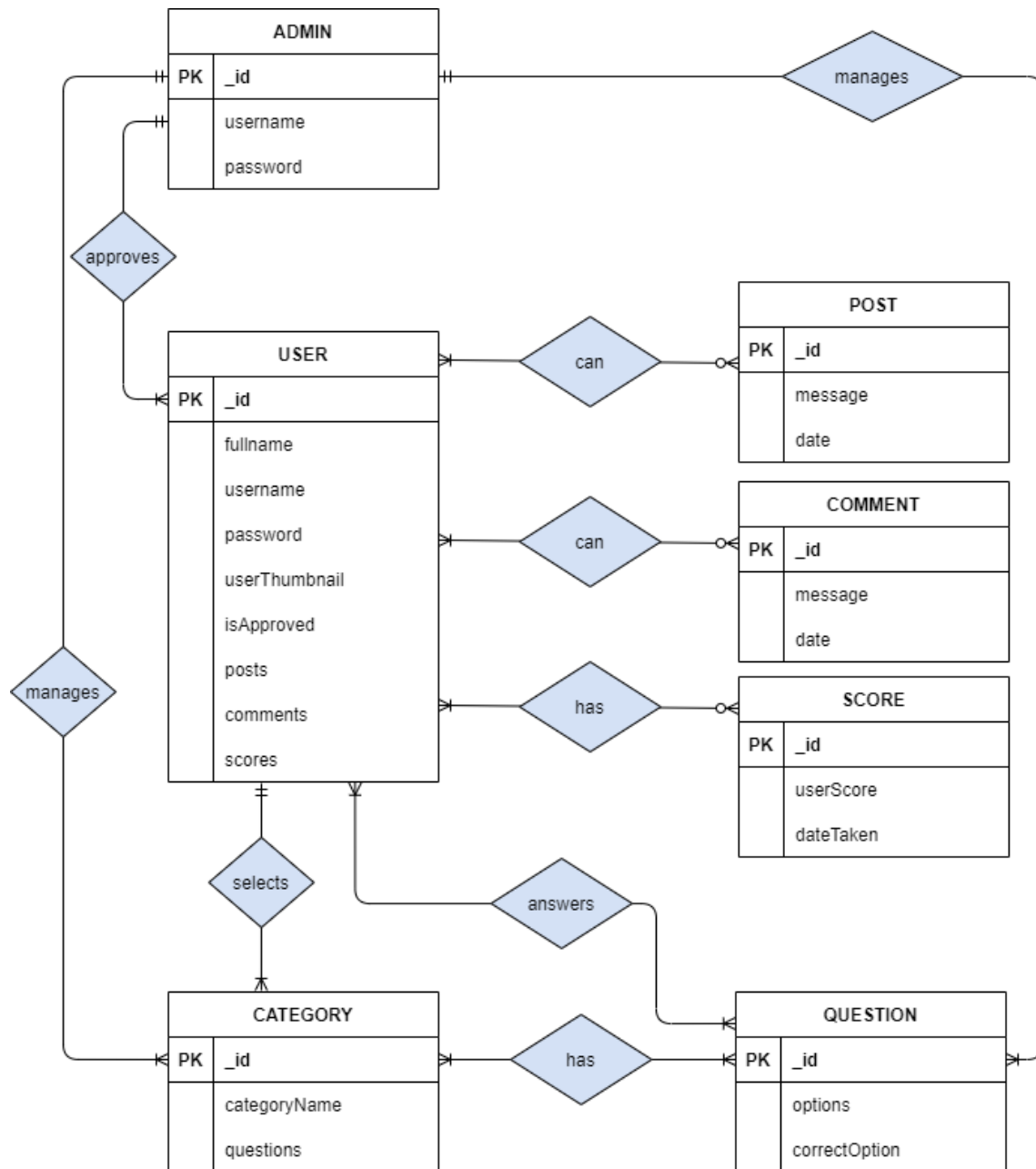


Figure 6 – Entity Relationship Diagram

The “JHCSC Online BLEPT Reviewer” database has seven entities: admin, users, posts, comments, scores, category and questions. Admin has one-to many relationships with user because the admin can approve multiple users to the system. The admin has one to many relationships with the category entity, because the questions need to be grouped into categories. The category has one to many relationships with questions, since in a category there are numerous questions. The user has one to many relationships to the questions entity, for the reason that an admin can manage all the questions in the system. The users have one to many optional to the posts entity, because user can make multiple posts or optional. The user has one to many optional to the comment, because a user has an array of comments. The user has one to many relationships with the score’s entity, because a user can take quizzes for many times and each time a score is generated.

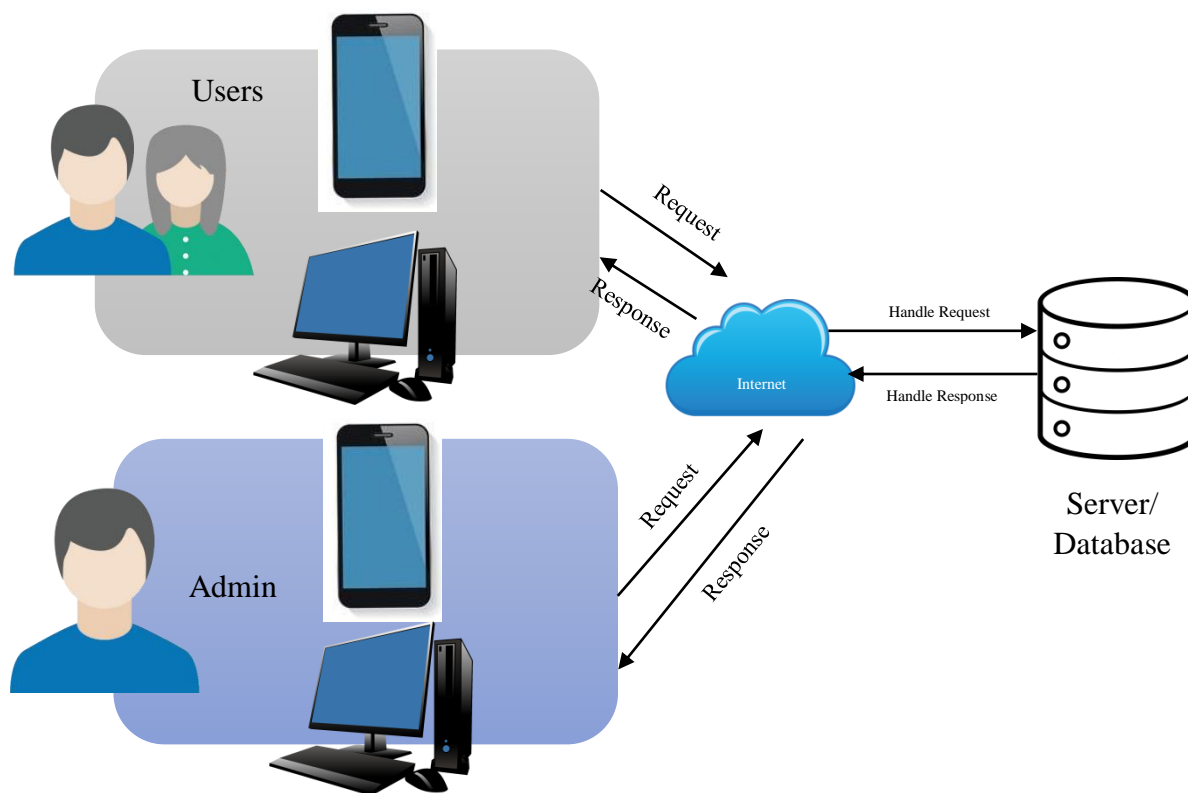


Figure 7 – System Architecture

The diagram shows the overview of the system on how it works in the implementation of the system. The admin and users can communicate with the system through sending requests using the UI of the website. The requests are then sent through the internet and the requests are handled by the server and a response is sent back to the admin or users.

Develop phase

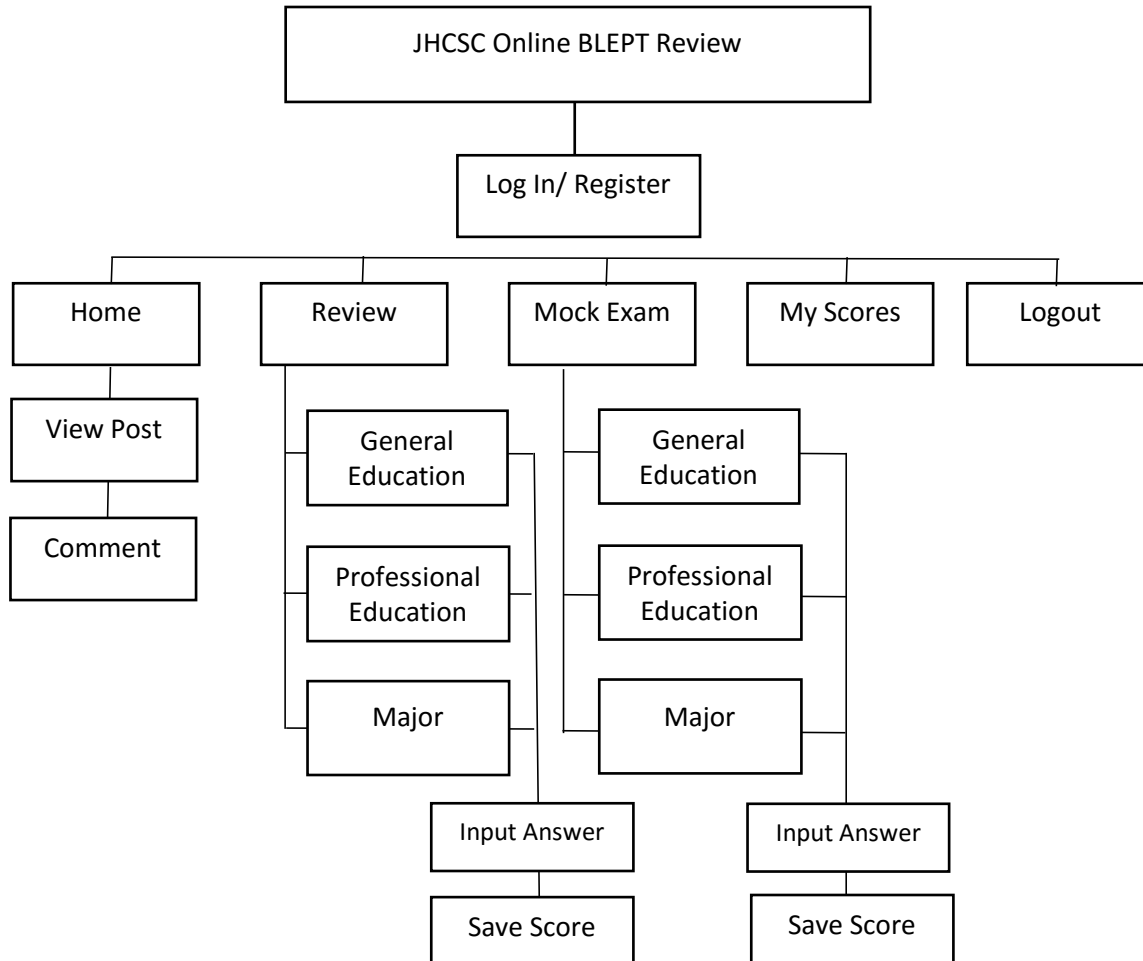


Figure 8 - Structured Diagram (Verified Users)

The figure 8 shows the structure of the system where you can see all the modules. It identifies the process of the entire system of each button in which it is properly designed according to their specification. The users can access review materials.

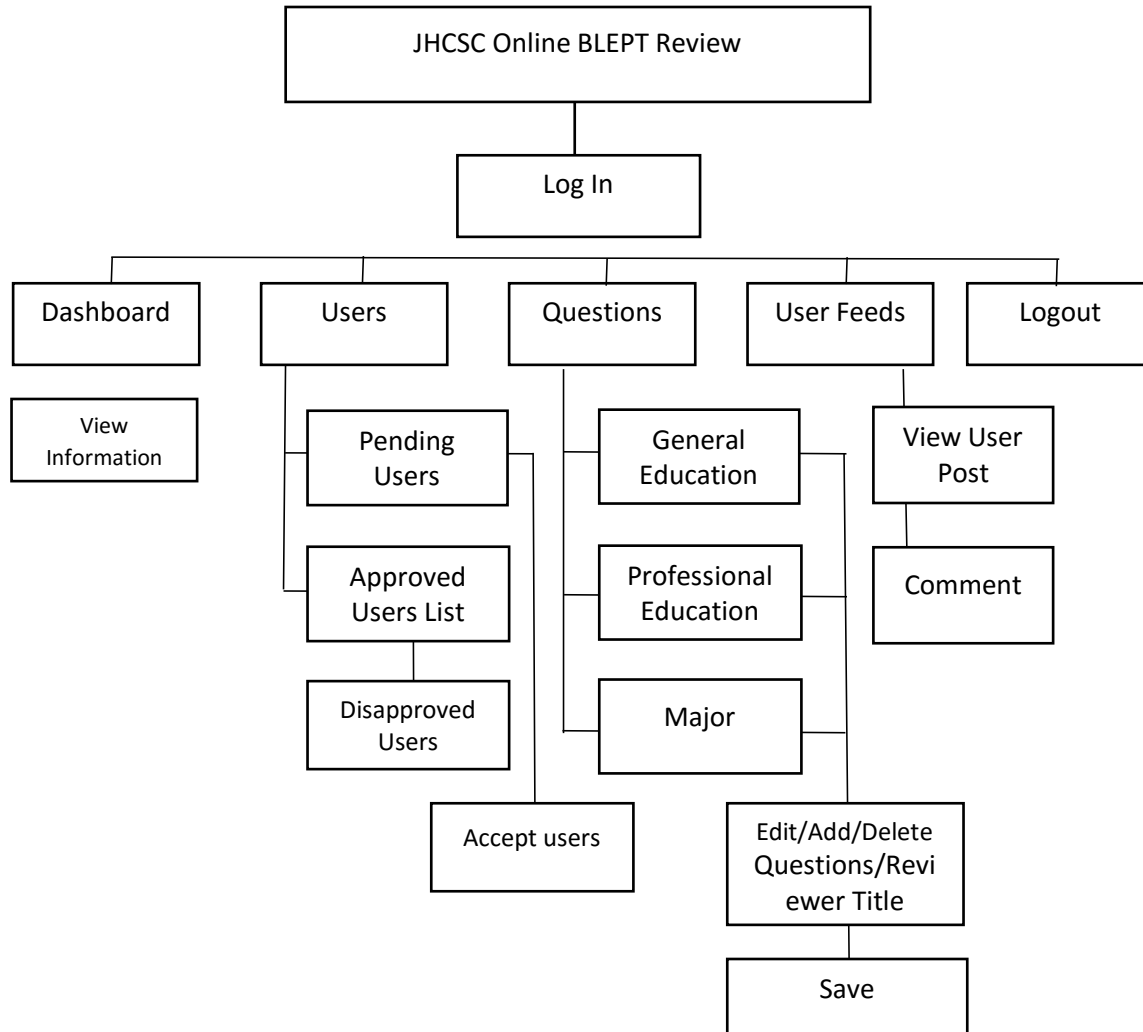


Figure 9 - Structured Diagram (Admin)

The figure 9 shows the structure of the system where you can see all the modules. The admin can manipulate questions and manage users.

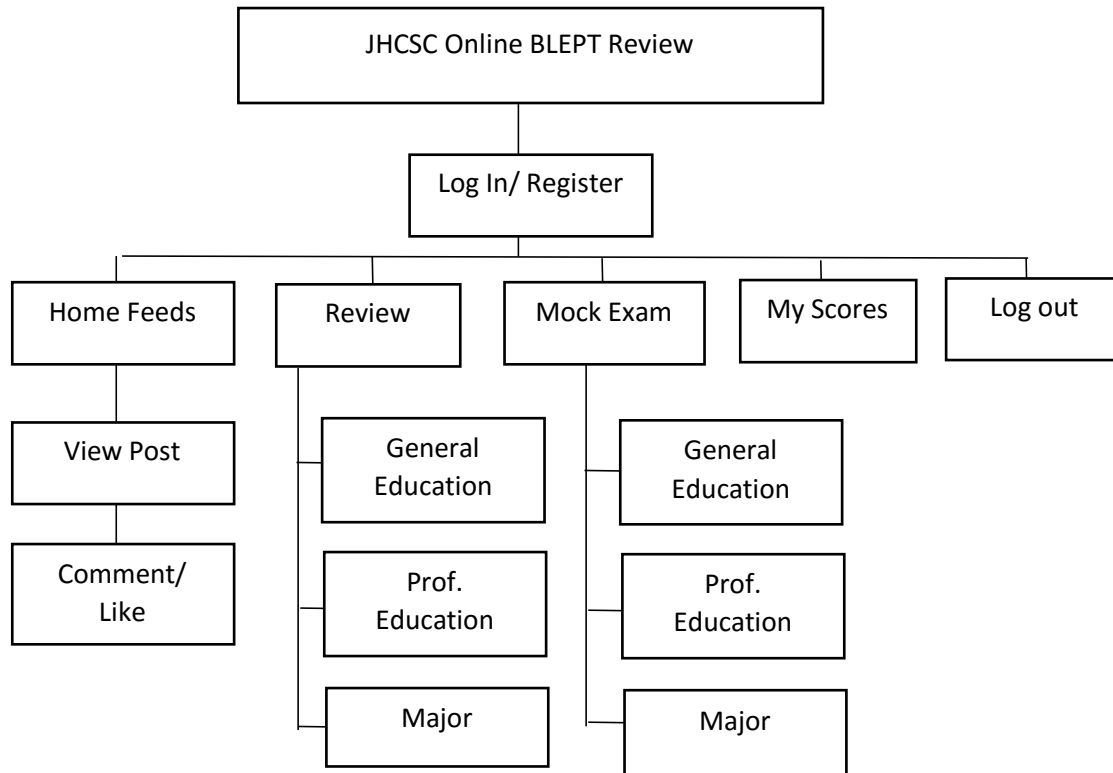


Figure 10 - Structured Diagram (Unverified Users)

The figure 10 shows the structure of the system where you can see all the modules.

The unverified users can view the categories but cannot answer the questions.

INPUT

- Signup account
- Answers
- Comments
- Posts
- Add Questions
- Approves User



PROCESS

- Save to database
- Calculate scores
- Approved users



OUTPUT

- Review materials
- Quiz Results

Figure 11. Conceptual Framework

The system accepts answers, comments, and posts from the users. The answers, comments, and posts are in a form of text which the system will process and save to the system's database. Then the result is generated after processing the answers and is saved to the database. The result can be retrieved from the database and displayed in the user's dashboard.

The admin of the system will add or make changes to the questions. The admin will approve user's access. Then the questions and approved users is saved to the database. The questions will become the review materials.

The unverified user will sign up for an account. The account will be subject to verification and approval of the admin. The outcome is limited for the reason that it is not fully authorize to use the features of the system.

CHAPTER IV

DEVELOPMENT AND TESTING

Description of Prototype

The prototype of the system has undergone several procedures to identify the functionality of each module of the application. The main objective of this chapter is to make sure that the proposed system meets the needs of the users and the proponents have set enough time for the completion of each activity. The scheduling of the activities can be seen in Table 1.0.

MONTH	AUGUST				SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER				JANUARY				FEBRUARY				MARCH				APRIL				MAY				JUNE			
WEEK	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Activities																																												
DEFINE																																												
Planning																																												
Data Gathering																																												
Requirement Analysis																																												
DESIGN																																												
GUI																																												
DEVELOP																																												
Coding																																												
Testing																																												
DEPLOY																																												
Implementation																																												

Table 1.0 Gantt Chart

This Gantt chart shows the length of time in every activity for this proposed system. The planning, data gathering and requirement analysis were done during the first 2 and a half months of the semester to make sure that all data needed are complete. The proponents conducted an interview with the instructor of the Course Review Subject Mrs. Ruby Redoblado to identify the problem, asking about the problems and the difficulties in conducting review for students, and recognizing the solutions. Designing of the GUI follows on the second week of October up to the third week of November. The researchers started the coding that will be finished until the end of

April. While coding, the researchers scheduled the Testing on the whole month of May and on the whole month of June, implementation and ready for deployment has been scheduled.

Development

The proponents used the 4D model for the development of the system which is suitable in creating the JHCSC Online BLEPT Reviewer. In the develop phase, the proponents assured that the system works properly and very useful to the students and instructor of the Course Review. After the development of the system, a set of testing was conducted to make sure of its functionality and will operate to the best of its capability.

The following are the modules created in order to achieve the functionality of the proposed system:

Module to Add Reviewer

The code below allows the admin to create new Reviewer Titles. The Reviewer.create code is the query to create new data which is the newTitle variable. Inside the newTitle variable is the information of the reviewer. In the event that there are no errors in creating a new Reviewer, the data is saved to the database and the admin will be redirected back to the category page.

```
Reviewer.create newTitle
.then newReviewer => res.redirect ('back')
.catch err => console.log err
```

Module to Add Questions

The code below allows the admin to input new questions inside the selected Reviewer. The `Question.create` code is the query to create new data which is the `newQuestion` variable. Inside the `newQuestion` variable is the information of the question. In the event that there are no errors, the data is saved to the database and the admin will be redirected back to the form creating new question.

```
Question.create newQuestion
  .then newQuestion => res.redirect ('back')
  .catch err => console.log err
```

Module to Post Result

The code below will run when the user click the save button. In the event that there are no errors the data will be saved to the database. Inside the variable is the name, date, score and reviewer title.

```
Score.create userScore
  .then userScore => res.redirect('back')
  .catch err => console.log err
```

Testing

Load Testing

The main function of the system is to have an online reviewer and the admin can add questions, and the user can select a reviewer title to take afterwards they have the option to save their score, and it does store and retrieve information from the database. During the testing the admin input the reviewer title and questions then save it, the system saves the data mostly 1 second but will be depending on the internet connection speed of the user. The data stored is only text files so it did not take long to save or retrieve the information. For the user to retrieve the questions it takes only 3 seconds to load all the questions inside the selected reviewer, but it also depends on the internet connection of the user.

Stress Testing

The researchers conducted stress testing to evaluate and determine the capability and the requirements of the installation of the JHCSC Online BLEPT Reviewer. Hence, we found out that the system shows slow processing in loading image file from the database.

Beta Testing

The researchers conducted beta testing with the admin of the JHCSC Online BLEPT Reviewer Mrs. Ruby Redoblado. The researchers test the functionality of the system in real time usage. The admin functionalities that is tested are the adding, editing, deleting of questions. The approval of users is also tested and the responsiveness of the system in mobile devices.



Image 1.0 Beta Testing

For the student's module functionality, the beta testing is conducted online. The system's performance is tested in real time usage. The researchers gathered user's feedback through google form.

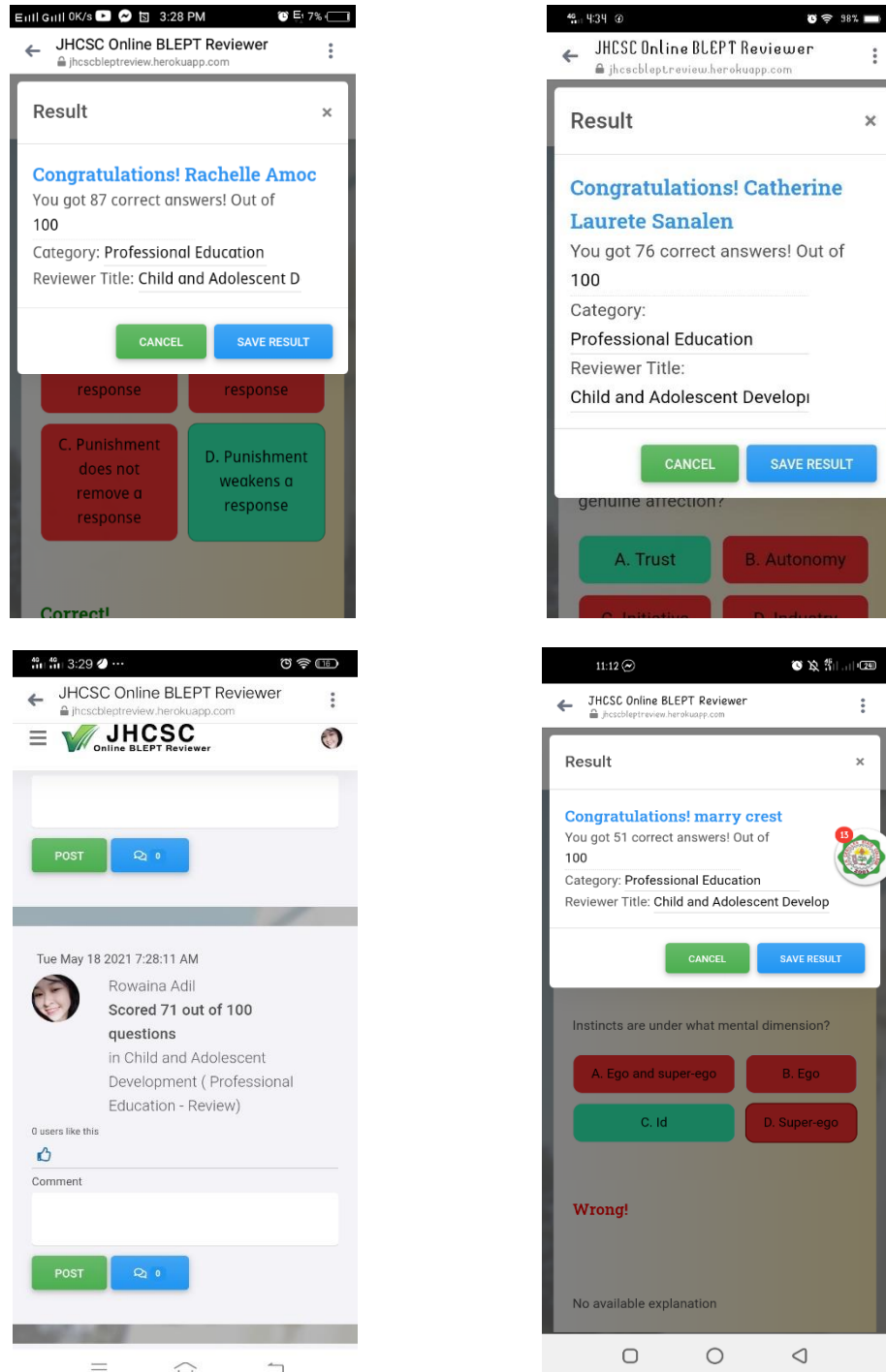


Image 2.0 User's Test Result

Implementation Plan

Strategy	Activities	Persons Involved	Duration
Testing	Trial to test the system	Review Course Instructor and Students	1 Week
Approval of the System	System Approval	Review Course Instructor	2 Weeks
System Installation	Uploading the system to a host	Researchers	1 Week

Table 2.0 Implementation

The developed system will be used by the Review Course Instructor after the approval. If the institution will implement the system, the researchers will hand over the system and documentation as their guide to use the system. The researchers will conduct some strategies that showed in Table 2.0.

Deployment Diagram

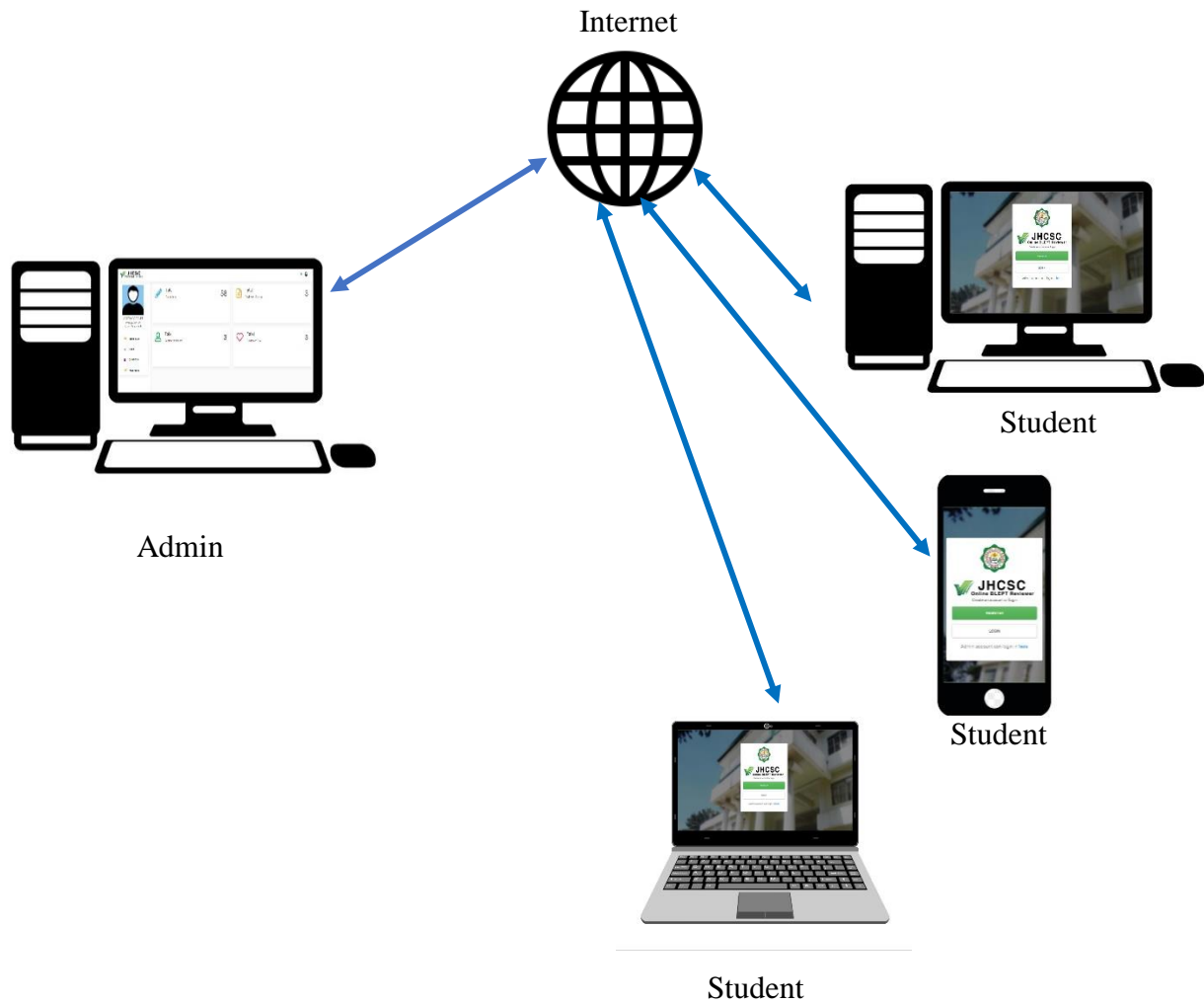


Figure 9.0 Deployment Diagram

The diagram above shows the devices works and connected to each other. The admin or the Review Course Instructor will manage the reviewers of the system which is connected to the internet. The students can access the reviewer that has been added by the admin by connecting to the internet.

CHAPTER V

IMPLEMENTATION RESULT, DISCUSSION, CONCLUSION,

RECOMMENDATION

Implementation Result and Discussion

This implementation result shows the screenshots of all user interface and a sequence of process within the JHCSC Online BLEPT Reviewer. This is shown in sequential way.

For Admin:

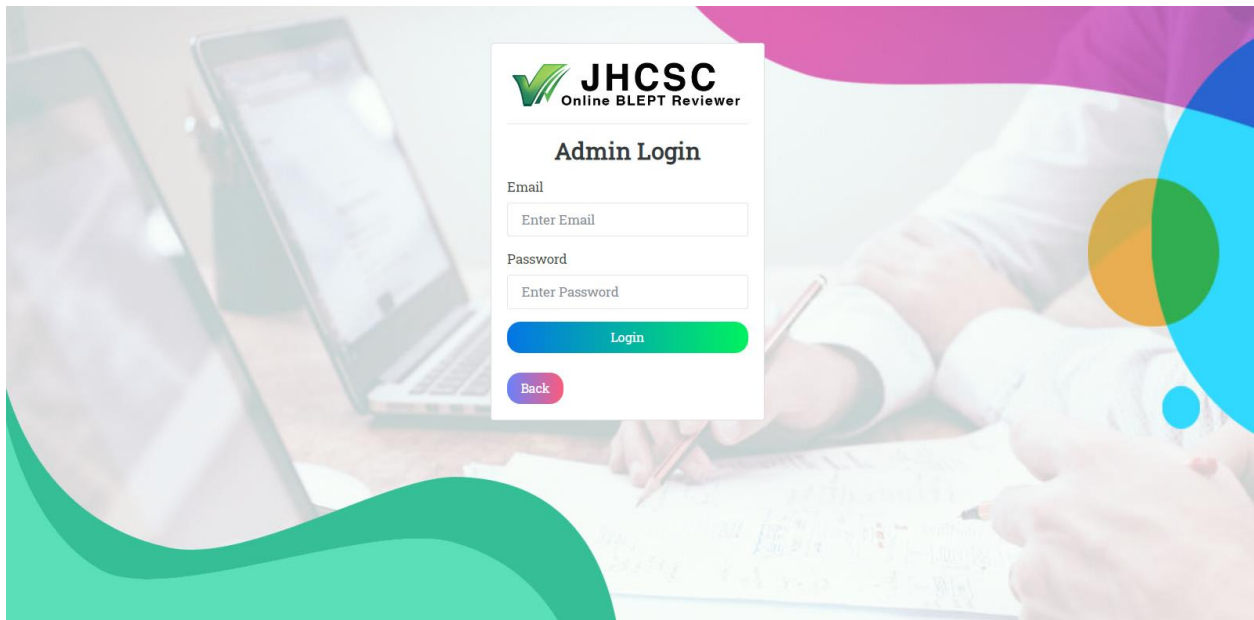


Image 4 Admin Login Page

Image 4 shows the admin login page.

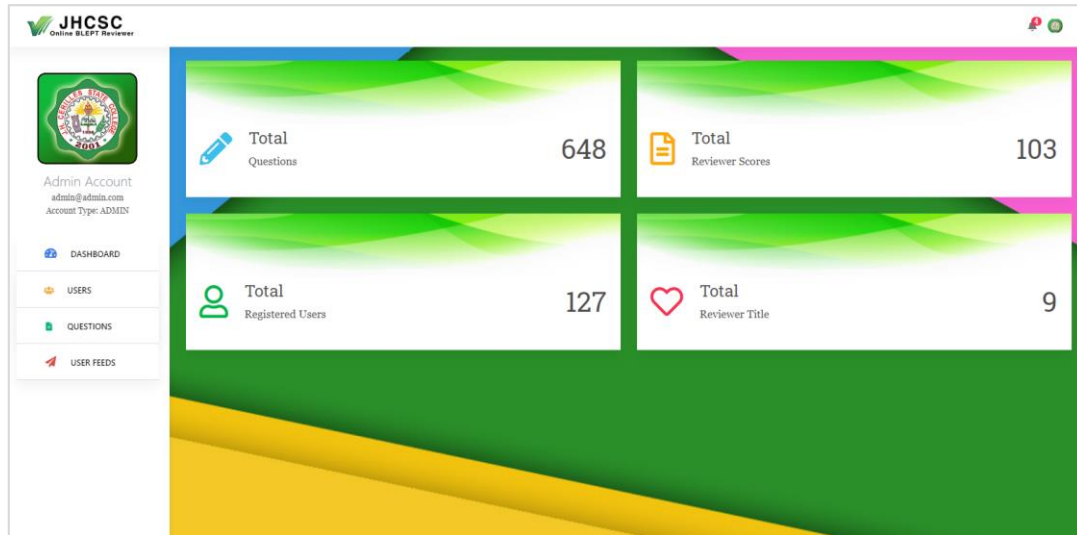


Image 5 Admin Dashboard

Image 5 shows the admin dashboard. Useful information are displayed in the dashboard. The sidebar serves as navigation of the page. If there is a user that is pending, a notification will appear with the number of pending users. Clicking the notification button will redirect the admin to the users pending list.

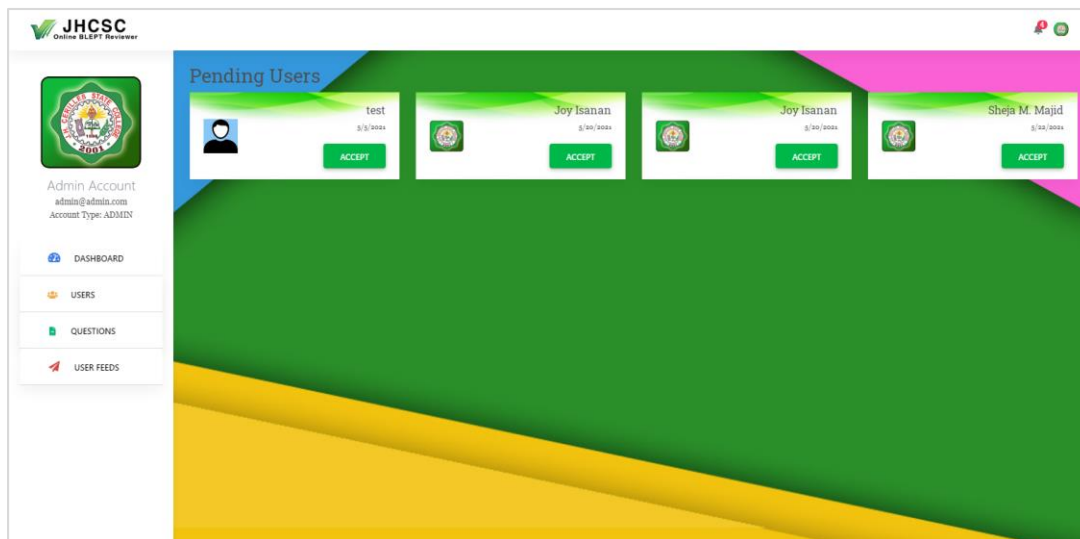


Image 6 User Approval Page

This page displays the list of users whose account is not yet approved by the admin. Clicking the accept button will approved the user's account.

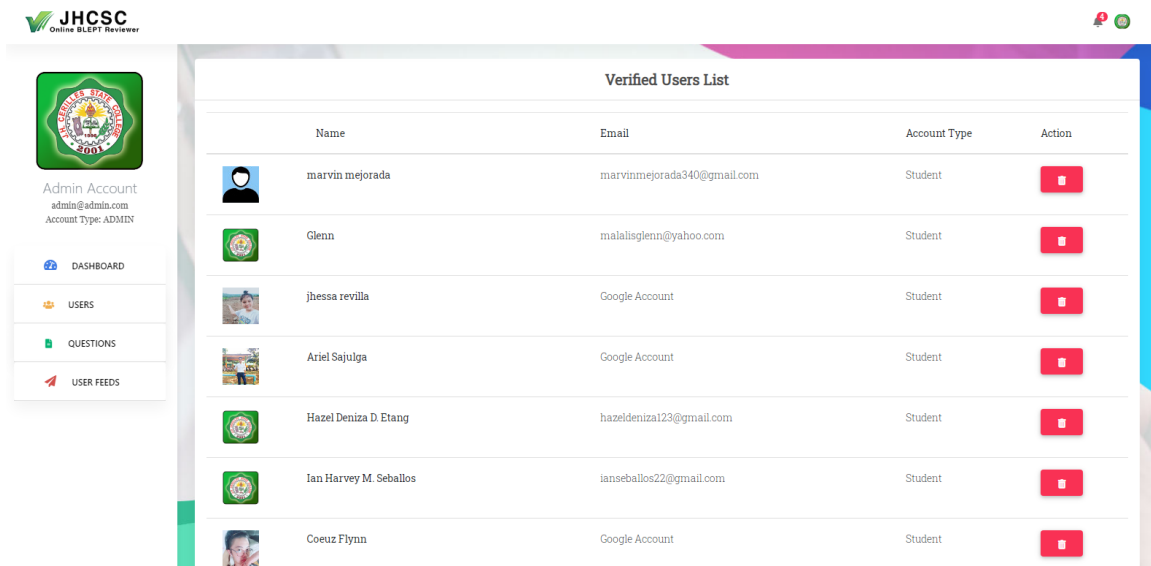


Image 7 List of Approved Users

This page displays the list of users whose account is already approved by the admin. Clicking the delete button will make the selected user into not approved status.

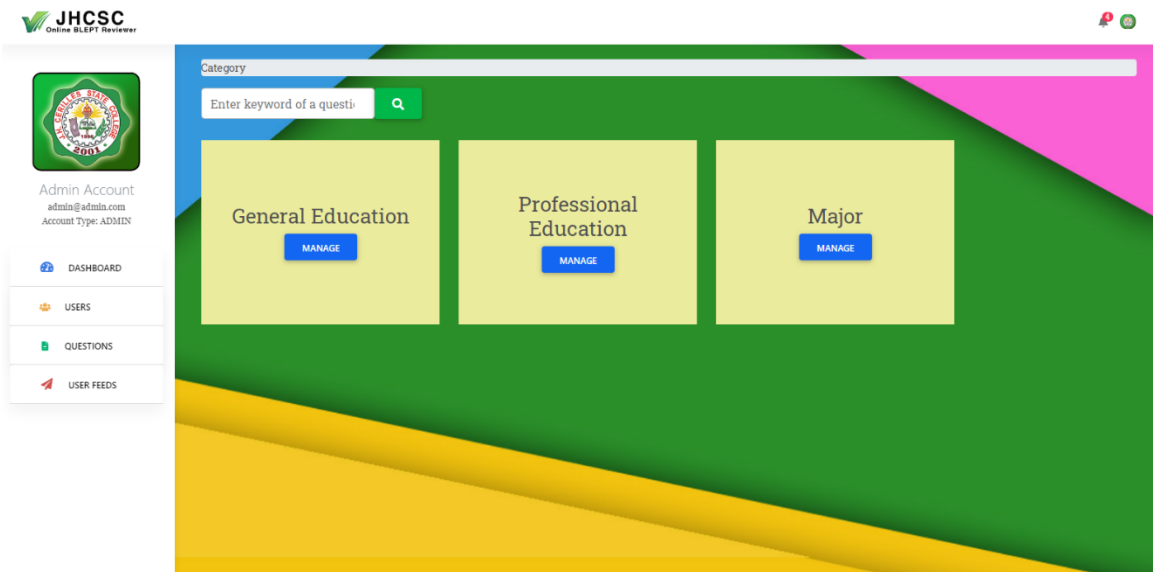


Image 8 Manage Questions Page

This page displays the three categories of which a reviewer belong. Clicking the Manage button will redirect the admin to adding new reviewer title.

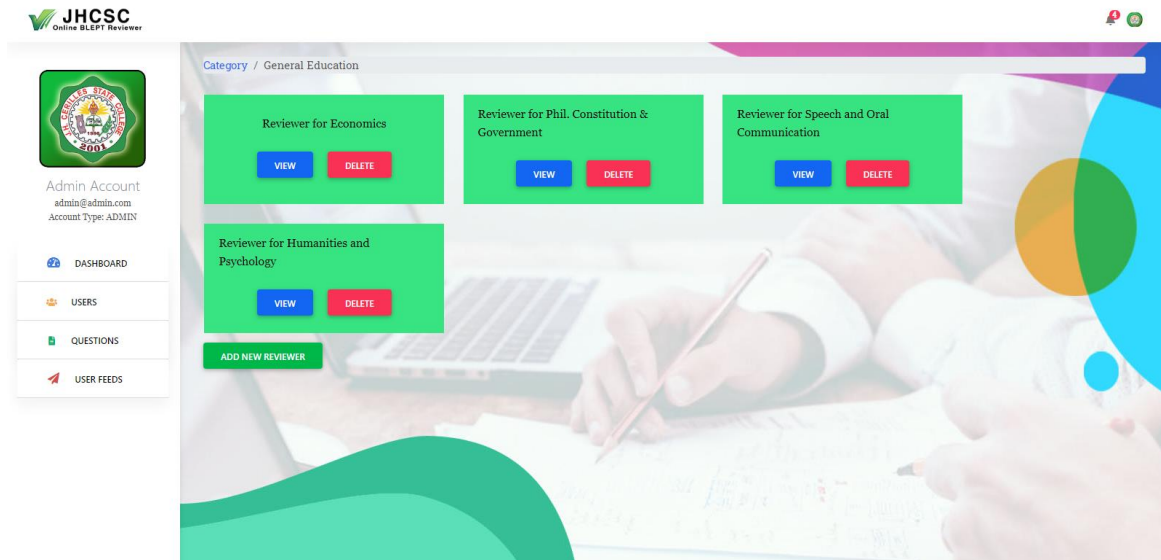


Image 9 View Reviewer Title Page

This image shows the different Reviewer Title inside a category. The admin can add new reviewer.

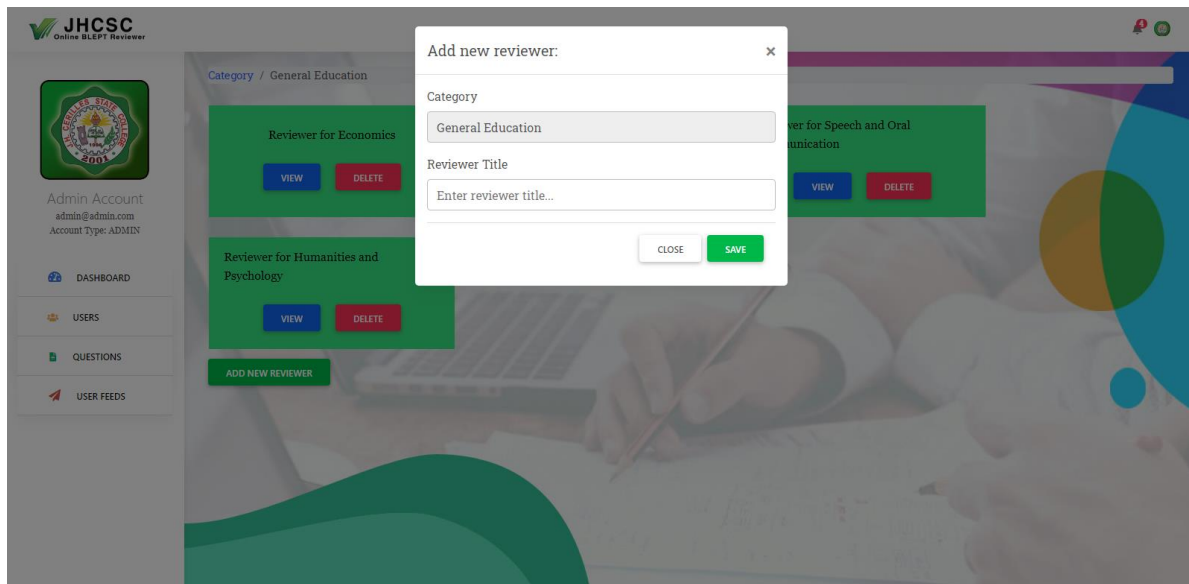


Image 10 Add New Reviewer

This image shows the form in which the admin can entry new reviewer title.

JHCSC
Online BLEPT Reviewer

Admin Account
admin@admin.com
Account Type: ADMIN

- DASHBOARD
- USERS
- QUESTIONS
- USER FEEDS

Reviewer Title
Humanities and Psychology

Question:
type question here...

Question Image url(Optional)

Answer Image url(Optional)

A.	Wrong
B.	Wrong
C.	Wrong
D.	Wrong

Explanation:

SAVE **BACK TO HUMANITIES AND PSYCHOLOGY**

Image 11. Add new question

This image shows the form in which the admin can enter a questions to a selected reviewer.

JHCSC
Online BLEPT Reviewer

Admin Account
admin@admin.com
Account Type: ADMIN

- DASHBOARD
- USERS
- QUESTIONS
- USER FEEDS

Category / Search Result

Enter keyword...

Search result for "TAXATION"

What is TRUE of a progressive system of taxation?

EDIT **DELETE**

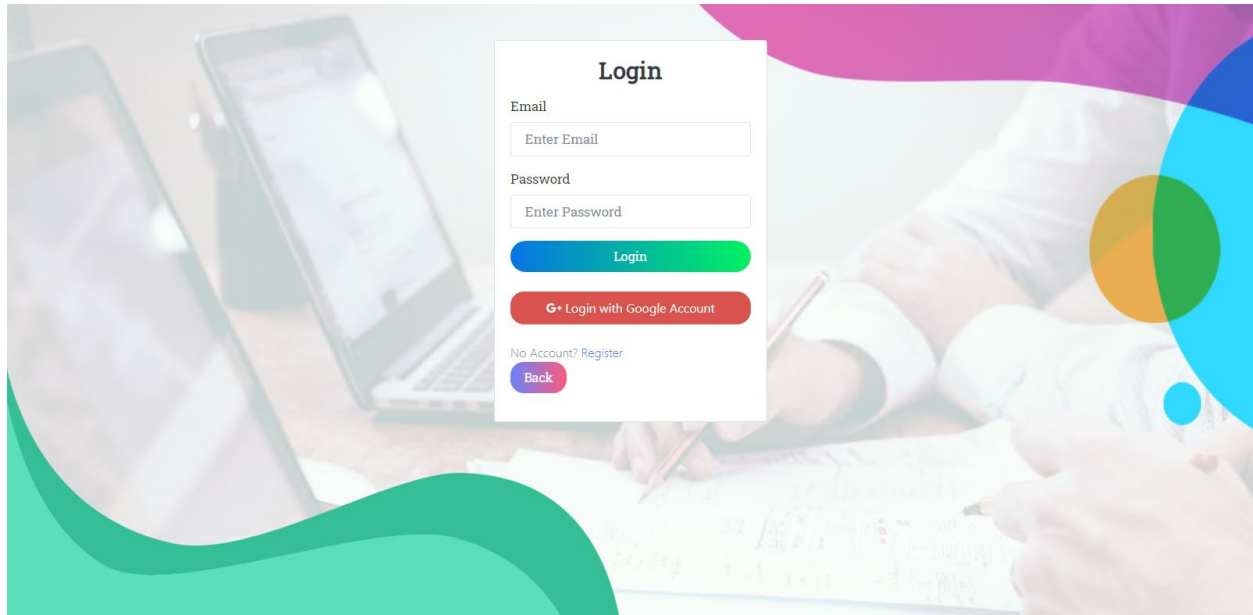
The primary purpose of taxation is to _____.

EDIT **DELETE**

Image 12. Search

This image shows the result of the entered search query by the admin.

For Users:

The image shows a login form titled "Login" overlaid on a background of students working on laptops and papers. The form has a white background and rounded corners. It contains two input fields: "Email" with a placeholder "Enter Email" and "Password" with a placeholder "Enter Password". Below these fields are two buttons: a blue "Login" button and a red "G+ Login with Google Account" button. At the bottom of the form, there is a link "No Account? Register" and a purple "Back" button.

Login

Email
Enter Email

Password
Enter Password

Login

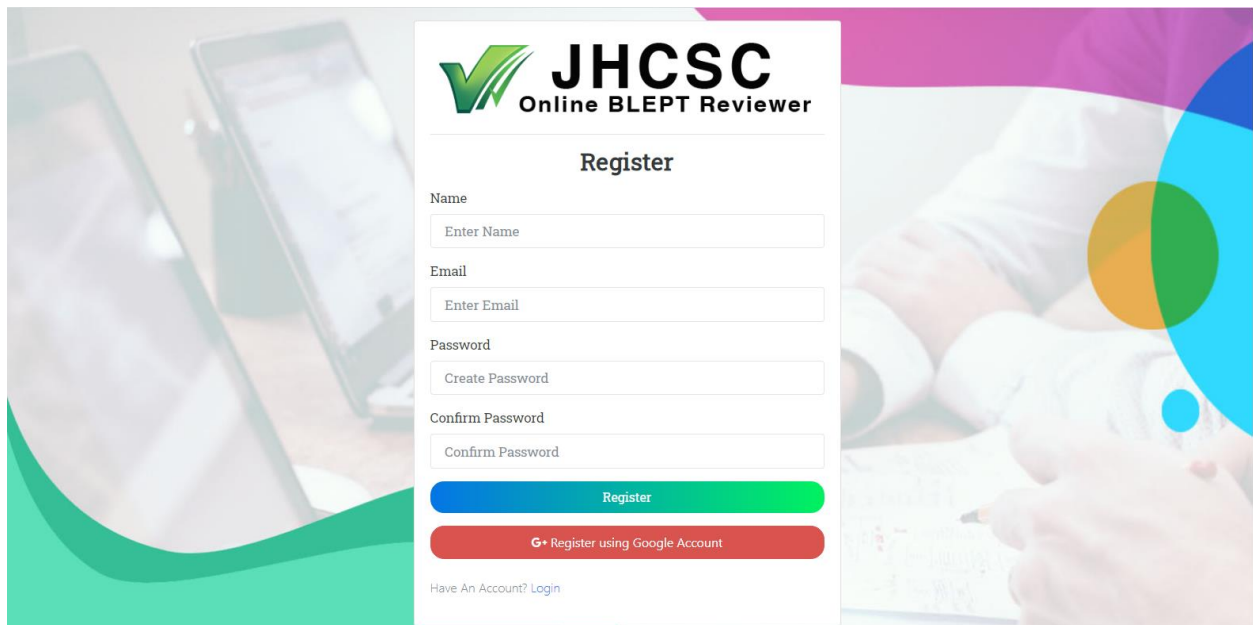
G+ Login with Google Account

No Account? Register

Back

Image 13. Student Login

This image the login form for students users.

The image shows a registration form titled "Register" overlaid on the same background as Image 13. The form has a white background and rounded corners. At the top, it features the JHCSC logo (a green checkmark) and the text "JHCSC Online BLEPT Reviewer". Below the header, there are four input fields: "Name" with placeholder "Enter Name", "Email" with placeholder "Enter Email", "Password" with placeholder "Create Password", and "Confirm Password" with placeholder "Confirm Password". Below these fields are two buttons: a blue "Register" button and a red "G+ Register using Google Account" button. At the bottom, there is a link "Have An Account? Login".

JHCSC
Online BLEPT Reviewer

Register

Name
Enter Name

Email
Enter Email

Password
Create Password

Confirm Password
Confirm Password

Register

G+ Register using Google Account

Have An Account? Login

Image 14. User Registration Page

This image the form in which a user fill in important information needed.

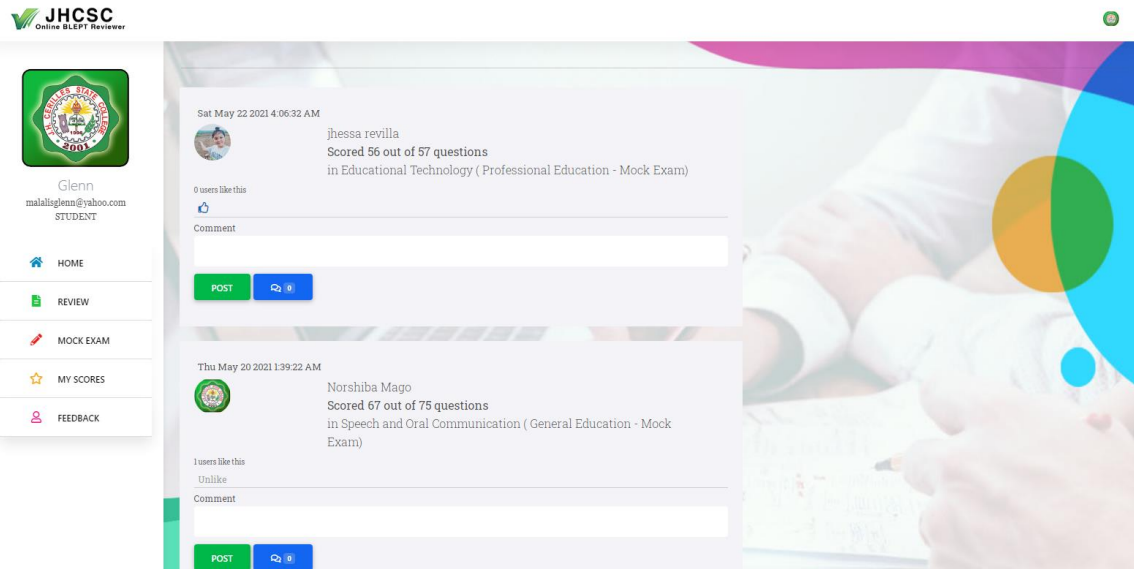


Image 15. User Home Page

This image shows the home page after logging in. This page displays the other users score. A user can like or comment on a specific post.

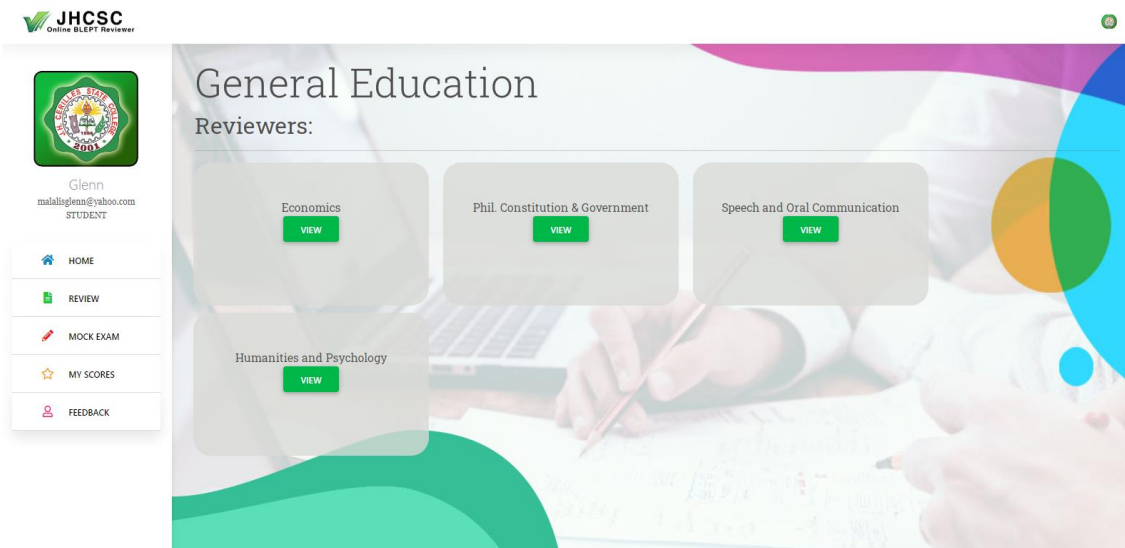


Image 16. Select Reviewer Title

This image shows the list of available reviewers that a user can use.

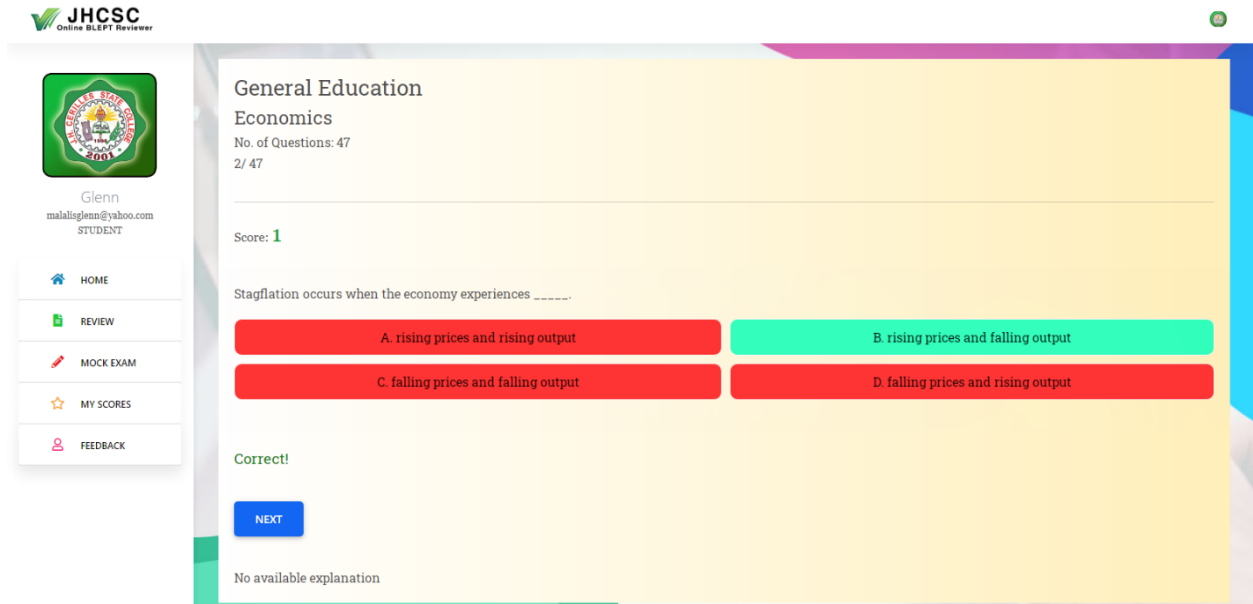


Image 17. Review Page

This image shows the questions and answers of a question inside a selected reviewer. Clicking the answer buttons will check if the selected button is the correct answer.

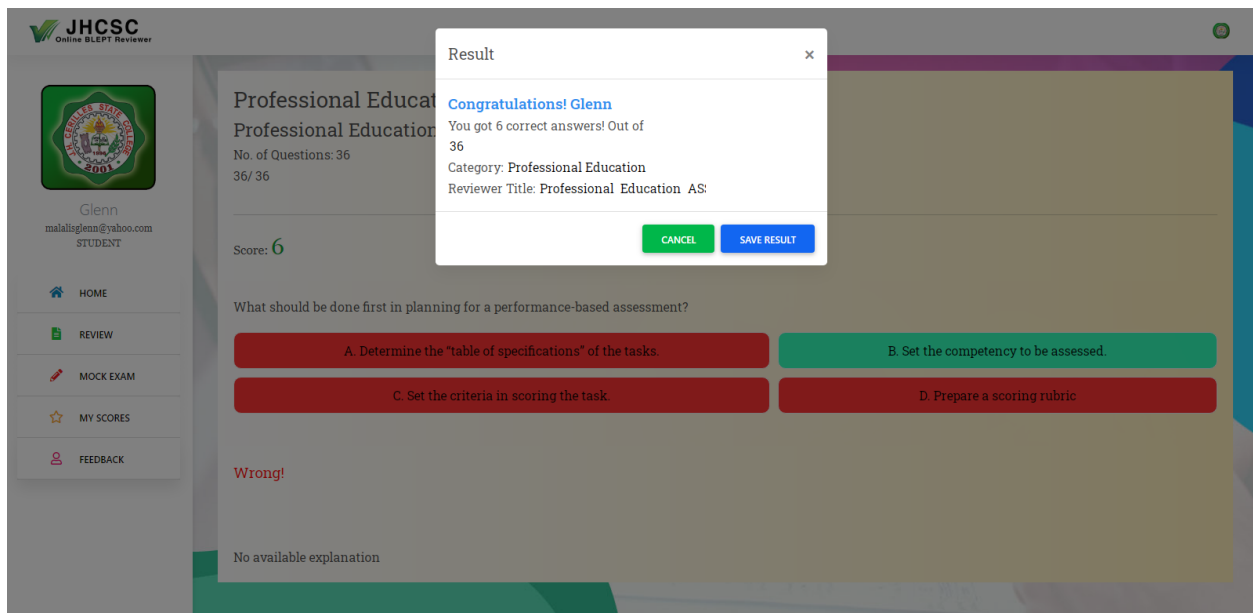


Image 18. Save Review Result

This image shows the option to save a user's result or cancel the current score.

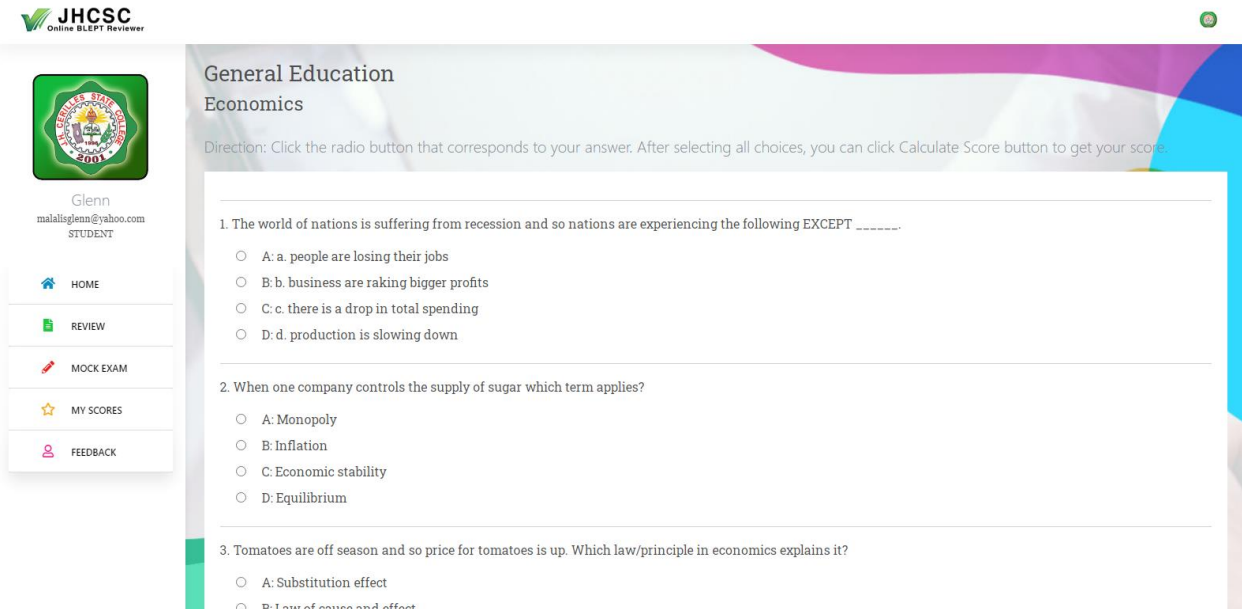


Image 19. Mock Exam Page

This image shows the page where a user can take a mock exam for the selected reviewer.

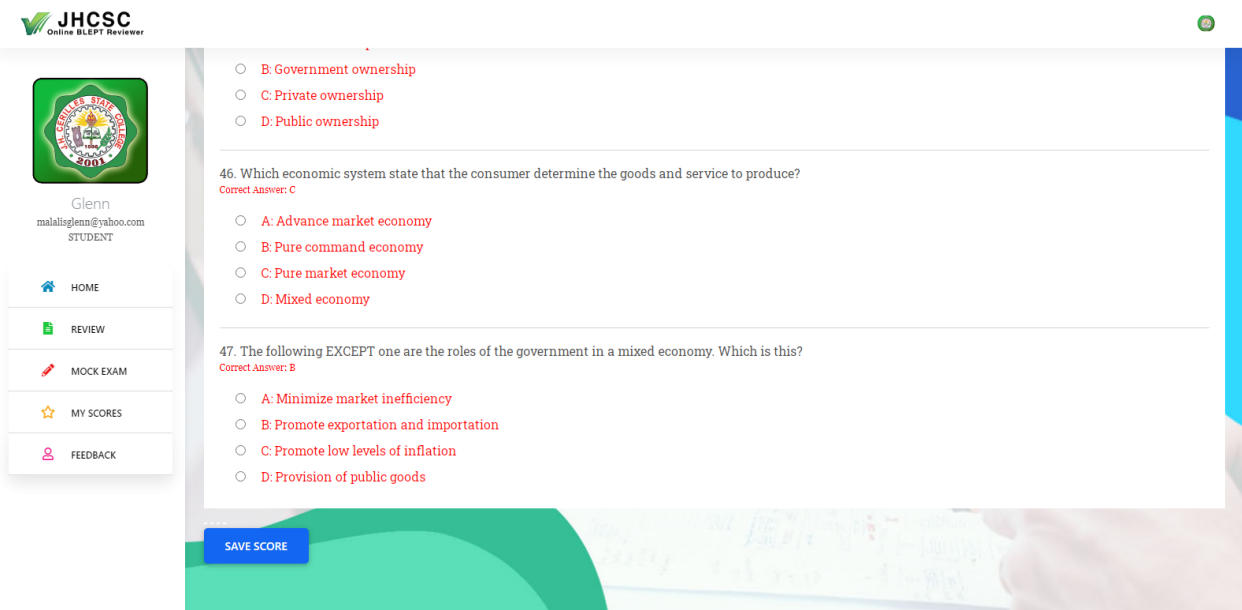


Image 20. Save Mock Exam Score

This image shows the button to save a user's mock exam result.

Conclusions

The researchers conclude that the JHCSC Online BLEPT Reviewer for Course Review of Education Students provides online and easy access to review materials, efficient system modules that will capture users' attention. It provides a portable reviewer that can be accessed anywhere and anytime as long as there is internet connection. The system also gives efficient functionality in calculating the users' result and saving it.

Recommendations

Based on the result of the study, the following recommendations are being mentioned:

- Further improvement of the system, it is recommended to add more features to the system like chatroom support to answer a user's query that also serves as communication between the admin and the users.
- To add support for efficient inputting mathematical formulas and questions to the system.
- For the future researchers, JHCSC Online BLEPT Reviewer needs further development that will allow other types of examinations to be included in this system.

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