American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science &Technology (FST)

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Section:

Software Quality Assurance and Testing

Gamers Heaven Epedia

A Report submitted

By

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1. INTRODUCTION

1.1 Background to the Problem

As we can see many people are like to play esports (Dota2, Valorant, Apex legends etc.) and like to follow esports and like to know their favorite teams' Schedule of events, ranking of the teams, and other news. Sometimes they don't find the proper news because of fake websites. If a person likes to see all esports news on the same page, they can't do so they have to visit all the websites individually. It is very time-consuming and difficult to find though website for new users.

1.2 Solution to the Problem

Epedia means Esports pedia. Esports, a short form of electronic sports, is an international event where every kind of electronic game is played and so many players participate in this big event to conquerthe desired and respected prize. Esports pedia is the number one information source for your favorite titles in esports. We will gather and store all the information about the Esports games, players, and teams in one place. The schedule of events, ranking of the teams, and other news will be published. It will be very helpful for the users because they will be able to see all Esports players and ranking in one place. Though it is a web-based application, for security purposes, there will be an option for users which is to log in. Also, users can see the features of the merchandise, interview, and gallery system by logging in to our system. Users also can participate in quizzes and give ratings to their favorite games. Users can give feedback so that we can solve their problems by visiting our webpage. There are also some features for admin. Admin can log in through admin login and see all the feedback. Also, in the future, we will make further changes to this project's login and user security system and also try to implement some features for players.

2. REQUEIREMNT SPECIFICATION

2.1 System Features

1. Admin

1.1 **Sign-up:** Admin can register to the website to make their account.

1.2 **Login**: Admin can log in to the system.

1.3 **Logout**: Admin can log out from the system.

1.4 **Change Password:** Admin can change the password if required.

1.5 **System control:** Admin can control the whole system.

1.6 **Financial section:** Admin can control the financial section.

1.7 **View Feedback:** Admin can see the feedback of the user.

1.8 **Remove user:** Admin can delete/remove any user if required.

1.9 **View user:** Admin can view all the users.

1.10 **View All Products:** Admin can see all products and delete any product.

Priority Level: High

Precondition: User must have a valid user ID and password

2. Employee

2.1 **Registration:** Employee has to register to the website to make their account:

2.2 **Login:** After registration, the employee can log in to the system.

2.3 **Logout:** Employees can log out from the system when needed.

2.4 **Change Password:** Employee can change their password if they need to.

2.5 **View Products:** Employees can see all the games/products.

2.6 **View Financial state:** Employees can handle the financial part of the system.

2.7 **Delete Product:** Employees can delete any product.

2.8 **View User:** Employee can view all the user and access their information.

2.9 **Delete User:** Employees can remove any user if required.

2.10 **Contact user:** Employee can contact with the system's users.

2.11 **Edit/Update quiz:** Admin can edit/update quiz every week.

2.13 **Add News:** Employees can add the updated news of games and players in the news section.

Priority Level: High

Precondition: Employee must have a valid username and password

3. User

3.1 **Registration:** User have to register them to our system when they decide to use the

system.

3.2 **Login:** After successfully registering to our system, users will have to log in to use the system.

3.3 **Logout:** User can logout from the system anytime.

3.4 **Change Password:** Users can change password if they need to and during that time oldpassword will be required as well for safety purpose.

3.5 **View Schedule:** Use can see the game schedule of all the games and teams.

3.6 **Check News:** User can see updated news of games and players.

3.7 **Contact Employee:** Admin can contact with the system's employees.

3.8 **Add Feedback:** User can give feedback if they have any suggestion regarding the system.

3.9 **Edit/Change user information:** User can update/edit information in their profile if needed.

3.10 **Quiz:** User can participate in quiz which will be done by our system.

3.11 **View Ranking:** Users can see the players ranking.

3.12 **View interviews:** Users can see the interviews of their favorite team.

Priority Level: High

Precondition: The user must have a valid username and password

3. FEATURES NOT TO BE TESTED

The following is a list of the areas that will not be specifically addressed. All testing in these areas will be indirect as a result of other testing efforts. For example:

An employee can contact system admin: An employee can contact admin feature was not tested in this release of the software.

An employee can contact Customer: An employee can contact the User feature was not tested because of low risk, has been tested before, and was considered stable.

Employee can add or remove product: employee can add a product or remove a product in our application. It will be released but not tested as a functional part of the release of this version of the software.

An employee can change the financial status of the product: The employee can change the financial status of a product in our application. It will be released but not tested as a functional part of the release of this

version of the software.

User Can contact system admin: This feature has also not been tested because of the same reason, due to low risk.

User Can see the interview of players: We have a feature in our system where user can see the interview of his or her favorite player or team was not tested in this release of the software.

4. TESTING APPROACH

Unit Testing: Testing can be divided into different types, and unit testing is one of them. And for software, it is best to do the unit testing first. In this testing, we will test individual software units or components. The main focus is to ensure each unit or moduleof the code works properly. The programmer in the development phase mainly does this testing. The white box testing process is used in unit testing.

Integration Testing: After unit testing, we will do the Integration testing. In this section, we will merge the small units and ensure that all the software modules are integrated properly and tested as a group. Our project is made up of several software modules written by Five programmers. The goal of this level of testing is to find flaws in the way various software modules interact when they are integrated. The Bottom-up Integration technique is used for integration testing.

System Testing: System testing is when we merge every module, add every feature, create a full system, and then perform testing. In this section, verification of software requirements is made. We checked every functionality and requirement. In this stage, Black box testing is done as white box testing is done when the project is in a module state.

Acceptance Testing: The finishing stage of software testing is acceptance testing, where end users will check it. As the time was short for this project, the development team actedlike end-users and tested every feature and functional section of the software

4.1 Testing Levels

The testing for the Epedia will consist of Unit, Integration, System, and Acceptance test levels. It is hoped that there will be at least one full-time independent test personfor system and integration testing. However, with the budget constraints and timeline established; most testing will be done by the test manager with the development teams' participation.

UNIT Testing: Testing will be done by the developer and will be approved by the development team leader. Proof of unit testing (test case list, sample output, data printouts, defect information) must be provided by the programmer to the team leader before unit testing will be accepted and passed on to the test person. All unit test information will also be provided tothe test person.

INTEGRATION Testing: will be performed by the test manager and development team leader with assistance from the individual developers as required. No specific test tools are available for this project. Programs will enter into an Integration test after all critical defects have been corrected. A program may have up to two Major defects as long as they do not impede testing of the program.

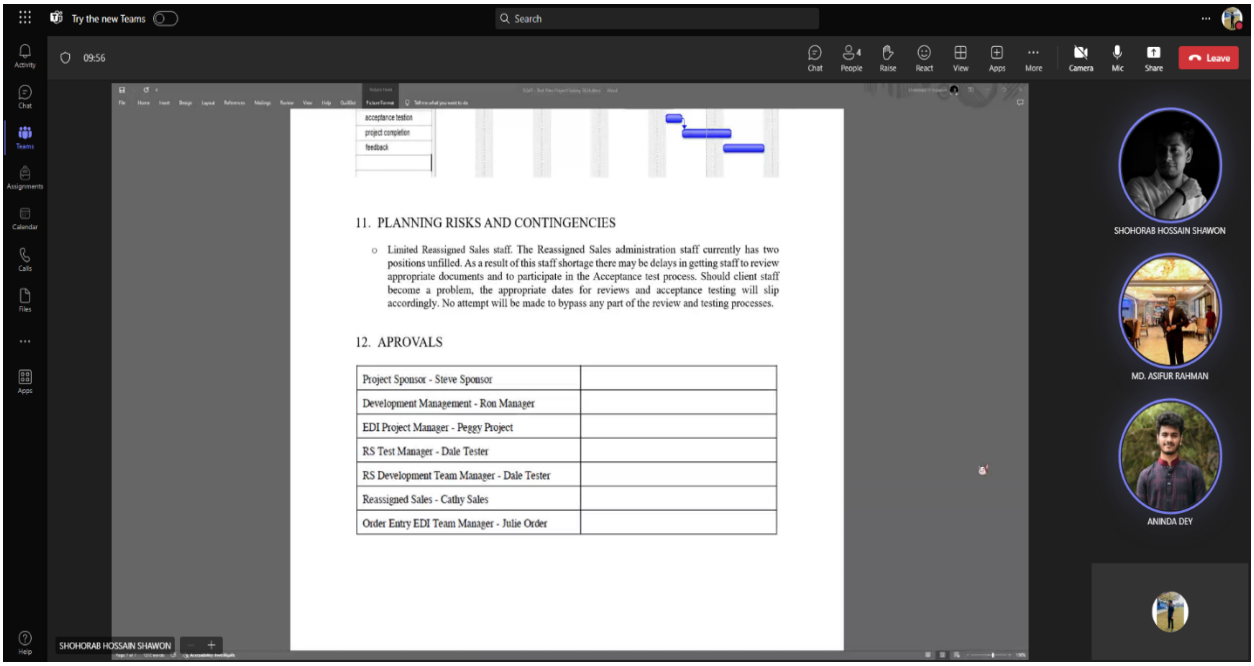
SYSTEM Testing: We will perform system integration testing to ensure that the software module dependencies are functioning properly and that dataintegrity is preserved between distinct modules of the whole system.

ACCEPTANCE Testing: We will use the acceptance testing technique to determinewhether or not the software system has met the requirement specifications and the main purpose of this test is to evaluate the system's compliance with the business requirements and verify if it has met the required criteria for delivery to end users.

4.2 Test Tools

We used SELENIUM for testing.

4.3 Meetings



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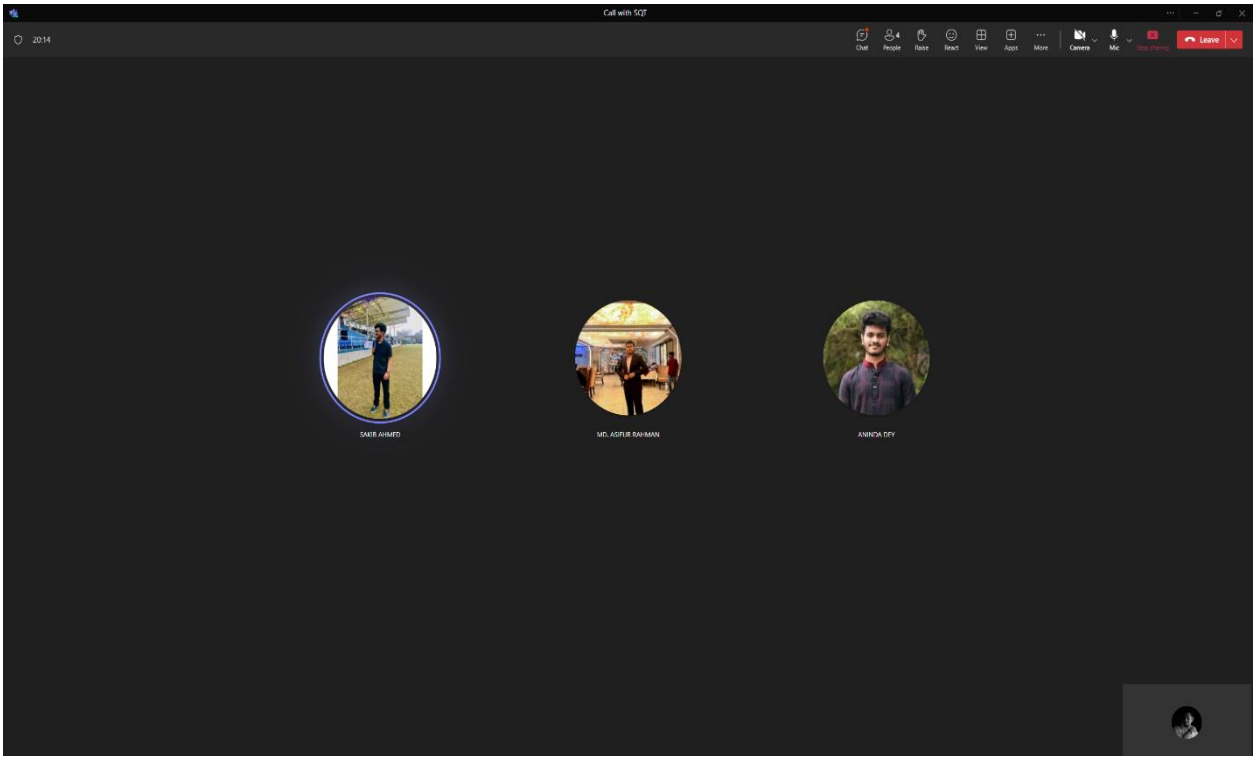

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4.4 User Interface

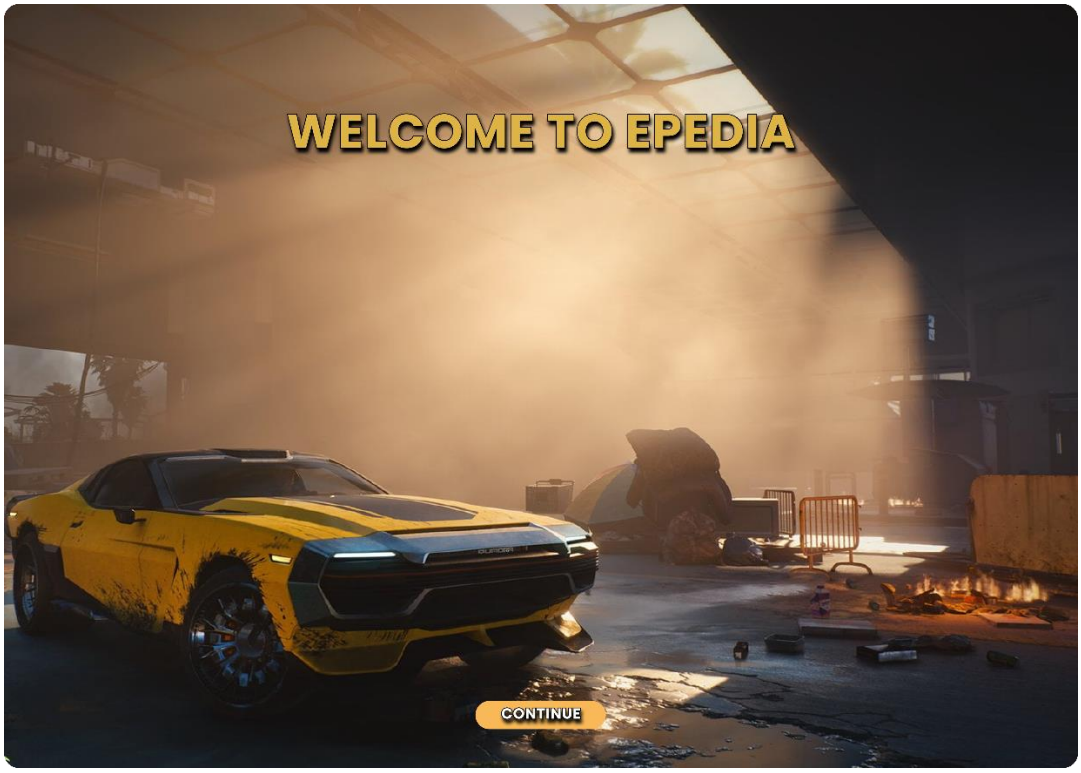

Fig: Welcome Page

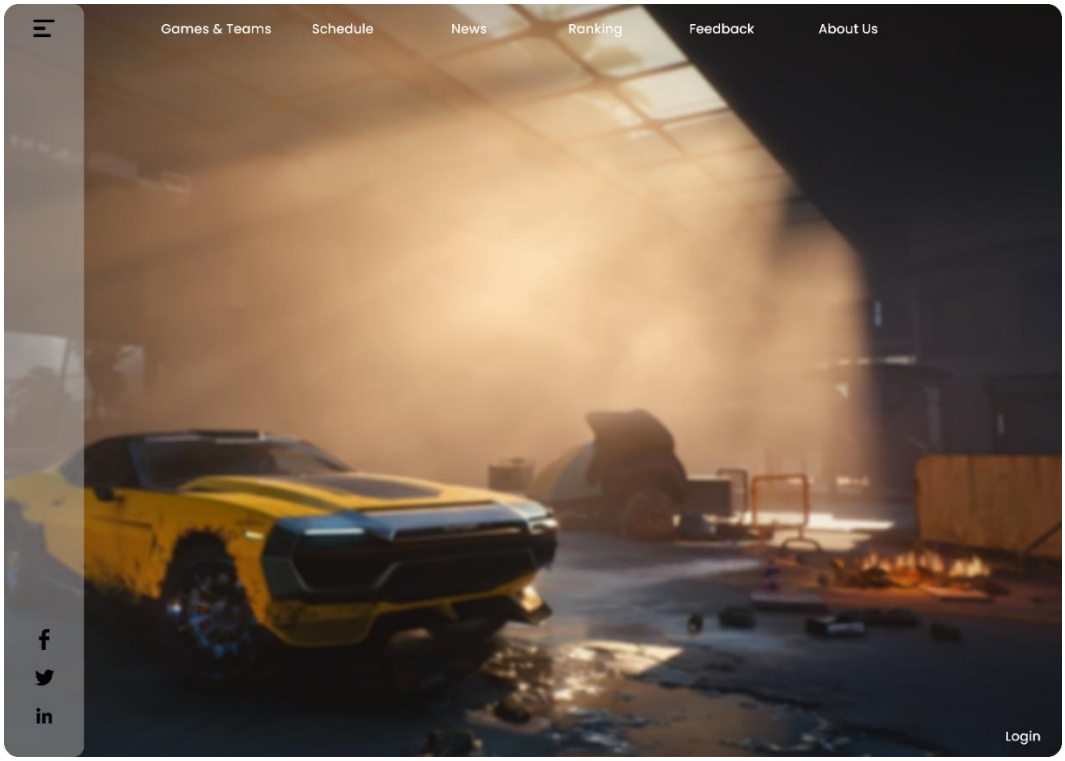

Fig: Home Page

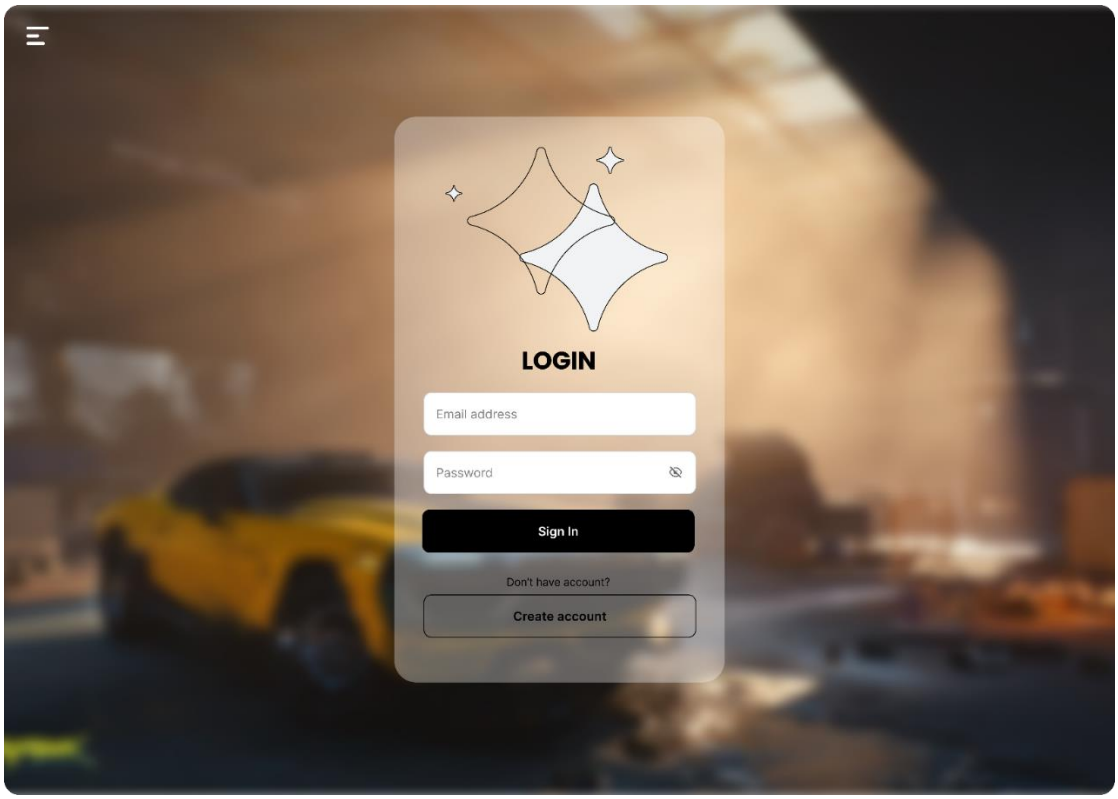

Fig: Login Page

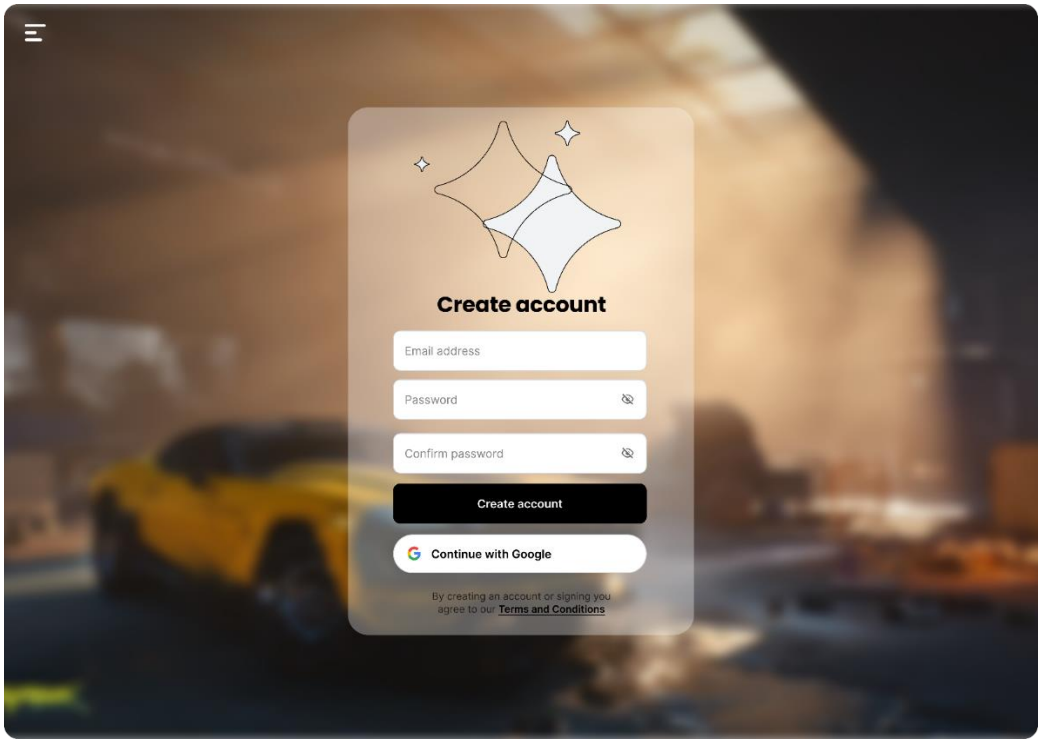

Fig: Registration Page

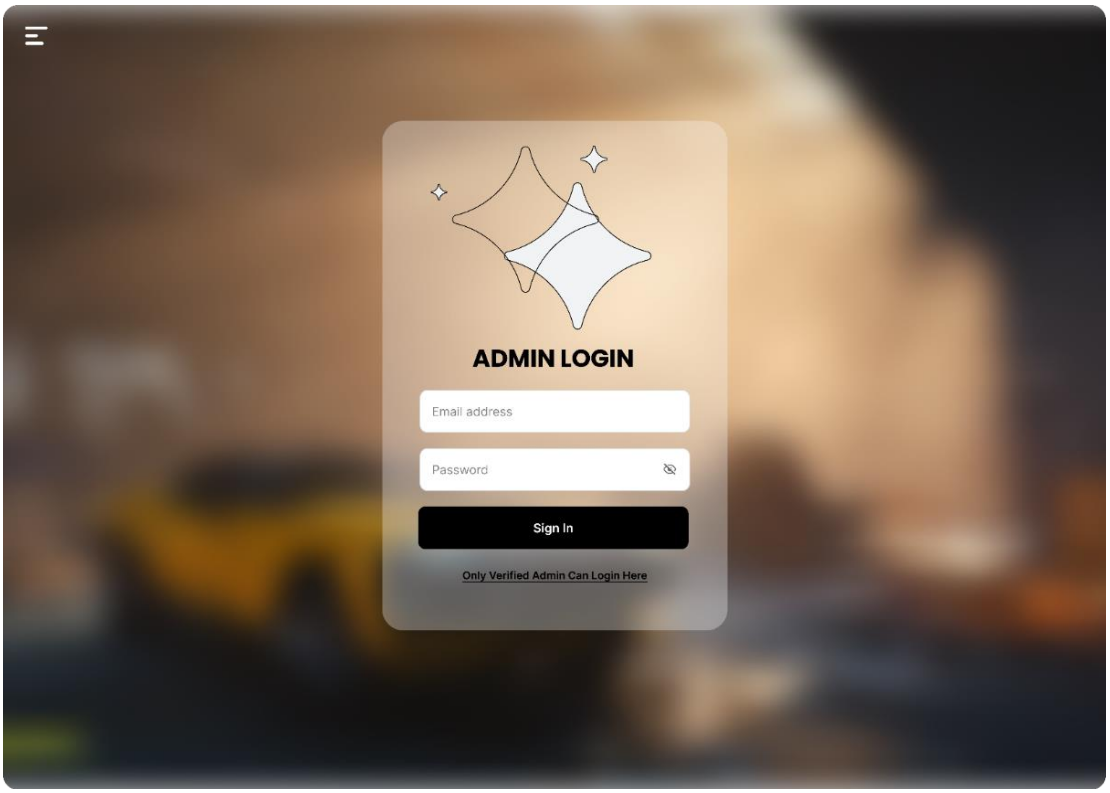

Fig: Admin Login

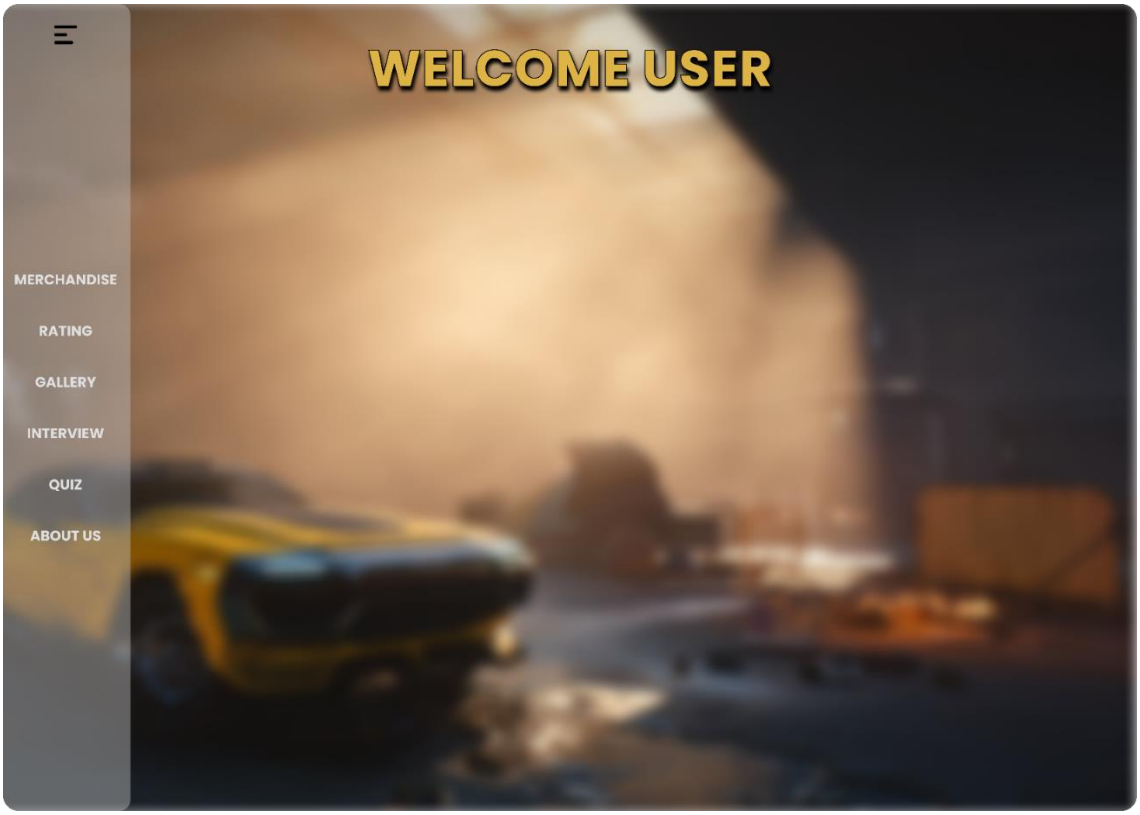

Fig: User Profile

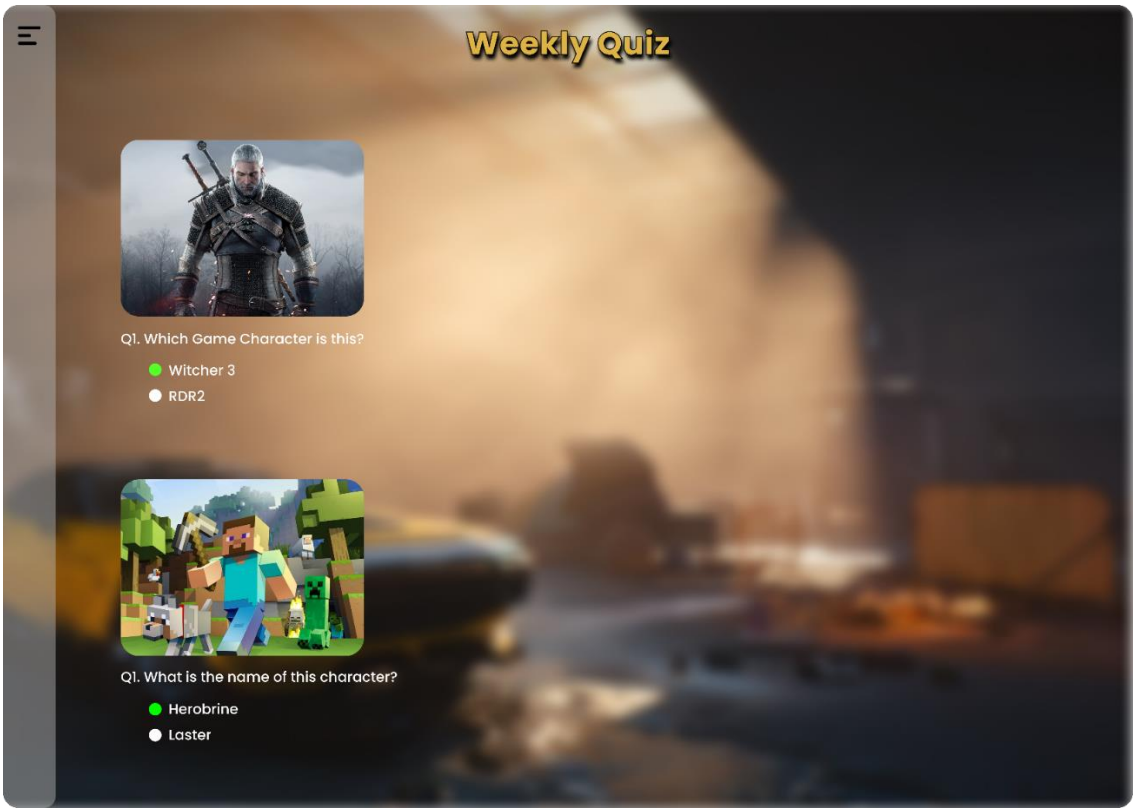

Fig: Quiz Page

5. Project Requirements

Effort Estimation:

We used the COCOMO model for project estimation. The type of the developed product isSemi-detached. So, coefficient=3.0, P=1.12, T=0.35, SLOC=20000

Effort = PM = Coefficient*(SLOC/1000) ^ P

= 3.0*(20000/1000) ^1.12

= 86 person months Development Time

= DM = 2.50*(PM) ^ T

= 2.50*(86) ^ 0.35

= 12 weeks days Required number of people

= ST

= PM/DM

= 86/12 = 7.17 = 8

Budget Estimation:

Duration in weeks = 12 weeksWeek days = 5 days

Working hours = 8 Hours

Per week working hours is = (5*8) hours

= 40 hoursTotal Working hours is = (40*12) hours

= 480 hours.Developer salary per hour = 500 BDT

Total developers Salary = (500*480*8) BDT

= 1,920,000 BDT

6. TEST CASES/TEST ITEMS

6.1 Log in

Project Name: Epedia			Test Designed by: Shohorab Hossain Shawoon	
Test Case ID: login_1			Test Designed date: 11/05/24	
Test Priority (Low, Medium, High): High			Test Executed by: SHOHORAB HOSSAIN SHAWON	
Module Name: Login Session			Test Execution date:12/05/24	
Test Title: verify login with valid username and password				
Description: Test website login page				
Precondition (If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)

1. Go to the website 2. Enter email id 3. Enter password 4. Click submit	Username: shohorab0200@gmail.com Password: 12345	User should log into the application	As expected,	Pass
Post Condition: User is validated with the database and successfully login to the account. The accountsession details are logged in the database.				

6.2 Sign up

Project Name: Epedia			**Test Designed by:** Shohorab Hossain Shawon	
Test Case ID: Signup_2			**Test Designed date:** 12/05/24	
Test Priority (Low, Medium, High): High			**Test Executed by**: SHOHORAB HOSSAIN SHAWON	
Module Name: Sign-up session			**Test Execution date:** 12/05/24	
Test Title: Sign up with a valid username, email, and password.				
Description: Test the website sign-up.				
Precondition (If any): User must fill up all the input fields.				
Test Steps	**Test Data**	**Expected Results**	**Actual Results**	**Status (Pass/Fail)**
1. Go to the website. 2. Click the "Sign up" button 3.Enter all valid information. 4. Click "Submit" button	Username: Shohorab Gmail: shohorab0200 @gmail.com Password:12345 Confirm password: 12345	Users will be signed up to the website	As expected,	Pass
Post Condition: User is validated with database and account details are stored in thedatabase.				

6.3 Sign out

Project Name: Epedia			**Test Designed by:** Sakib Ahmed	
Test Case ID: Signout_3			**Test Designed date: 13/05/24**	
Test Priority (Low, Medium, High): Medium			**Test Executed by**: Sakib Ahmed	
Module Name: Sign out session			**Test Execution date: 13/05/24**	
Test Title: Verifying sign out option				
Description: Test the website sign out option				
Precondition (If any): user need an account on the website and need to be signed in.				
Test Steps	**Test Data**	**Expected Results**	**Actual Results**	**Status (Pass/Fail)**
1. go to the site 2. Sign in to the website 3. Click the "Signout" button	Username: sakib01@gmail.com Password: 12345	User will be signed out from the system	As expected,	Pass
Post Condition: User goes back to the home page				

6.4 Homepage

Project Name: Epedia			**Test Designed by:** Sakib Ahmed	
Test Case ID: Home_4			**Test Designed date:** 12/05/24	
Test Priority (Low, Medium, High): Medium			**Test Executed by**: Sakib Ahmed	
Module Name: Home			**Test Execution date:** 12/05/24	
Test Title: Testing the homepage validation				
Description: Test the website homepage if it's working properly to other pages				
Precondition (If any): Proper internet connection				
Test Steps	**Test Data**	**Expected Results**	**Actual Results**	**Status (Pass/Fail)**
1. Go to the website. 2. Click the "Homepage" button. 3. Click the "Sign up" togo to home. 3. Click the "Homepage"to go to home.	No data needed	Users should be able to go to homepage to other webpages	As expected	Pass
Post Condition: Users should be able to back to the homepage from other webpages.				

6.5 Games & Teams

Project Name: Epedia	**Test Designed by:** Md. Asifur Rahman
Test Case ID: Games_5	**Test Designed date:** 12/05/24
Test Priority (Low, Medium, High): High	**Test Executed by**: Md. Asifur Rahman
Module Name: Games & Teams session	**Test Execution date:** 12/05/24
Test Title: show all the games and teams with theirrespected details.	
Description: Test all the games and teams are visibleor not	
Precondition (If any): User have to login and go to Games & Teams page	

Test Steps	**Test Data**	**Expected Results**	**Actual Results**	**Status (Pass/Fail)**
Go to the website Log in to the site 3. Go to the Games & Teams page		Can see all the games and teams with details	As expected,	Pass

Post Condition:

6.6 Feedback

Project Name: Epedia			**Test Designed by:** Md. Asifur Rahman	
Test Case ID: Feedback_6			**Test Designed date:** 13/05/24	
Test Priority (Low, Medium, High): High			**Test Executed by**: Md.Asifur Rahman	
Module Name: Feedback session			**Test Execution date:** 13/05/24	
Test Title: show all the feedback with details information.				
Description: Test the working criteria of feedback				
Precondition (If any): User have to login and go to Feedback page				
Test Steps	**Test Data**	**Expected Results**	**Actual Results**	**Status (Pass/Fail)**
1. Go to the website 2. Log in to the site 3. Go to the Feedback page		Can see all the feedbacks with details	As expected,	Pass
Post Condition: User is validated with database and should be logged into the account.				

6.7 Schedule

Project Name: Epedia			**Test Designed by:** Aninda Dey	
Test Case ID: schedule_7			**Test Designed date:** 13/05/24	
Test Priority (Low, Medium, High): High			**Test Executed by**: Aninda dey	
Module Name: Schedule session			**Test Execution date:** 13/05/24	
Test Title: show all the schedule of the games				
Description: Test the working criteria of schedule				
Precondition (If any): User have to login and go to Schedule page				
Test Steps	**Test Data**	**Expected Results**	**Actual Results**	**Status (Pass/Fail)**
1. Go to the website 2. Log in to the site 3. Go to the Schedule page		Can see all the schedule of games in details	As expected,	Pass
Post Condition: User is validated with database and should be logged into the account.				

6.8 Forgot password

Project Name: Epedia			**Test Designed by:** Aninda Dey	
Test Case ID: ForgotPassword_8			**Test Designed date:** 13/05/24	
Test Priority (Low, Medium, High): High			**Test Executed by**: Aninda Dey	
Module Name: Forgot Password session			**Test Execution date:** 13/05/24	
Test Title: Test the forgot password				
Description: Test password is updated or not.				
Precondition (If any):				
Test Steps	**Test Data**	**Expected Results**	**Actual Results**	**Status (Pass/Fail)**
1. go to the site 2. Go to the log in page. 3. Click the "Forgot password" button	Old Password=12345 New Password=78912	Password change successful	Password not updated	Fail
Post Condition: The updated password is stored in the database				

7. ITEM PASS/FAIL CRITERIA

Here we have implemented a total of 8 test cases. At first, when applying the test case to the system, 87% of the test cases were passed successfully and 13% test were failed. The test cases failed due to some query-related issues in the database. When the test case was applied after solving a query and code related problem, all the test cases were successfully passed.

8. TEST DELIVERABLES

Acceptance test plan: The user acceptability tests all turned out to be successful. The user interface was easy to use but still efficient.

System/Integration test plan: System integration was completed satisfactorily in every way.The database was therefore correctly functioning and all of its features were responsive.

Unit test plans/turnover documentation: The unit testing was done successfully.

Screen prototypes: Several prototypes were made and

Report mock-ups: There were no mock-ups created for the report we are currently reviewingbecause it is the project report.

Defect/Incident reports and summaries: Tt functions well in any circumstances but the requirements are not fully understandable. The process is iterative and based on trial.

Test logs and turnover reports: All of the tests were completed correctly, and none revealedany major problems.

9. STAFFING AND TRAINING NEEDS

The following staffing is expected for this test plan:

Project Manager – 1

Test Manager – 1

Developer – 2

If the Project Manager is not familiar with software Testing, project manager should become

Familiar every testing processes. The Test Manager and Test Analyst must be familiar with how to use the test software. Many software systems come with extensive on-line help, but the test personnel may also need detailed knowledge of the testing criteria standards to fully perform their duties. Developers need more effort to develop a software.

10. RESPONSIBILITIES

Serial no	Name	Role	Responsibilities
01	SOURAV MANDAL	Project Manager	1.Acceptance test Documentation and Execution. 2.System and Detail Design Reviews. 3.Test procedure and rules. 4.Change control and regression testing.
02	MAHIR RAHAMAN KHAN	Testing Manager	1.Every Test Documentationand Execution. 2.System and Detail Design Reviews. 3.Test procedure and rules. 4.Change control and regression testing.
03	TAHIAT, MAISHA BAPPI, SM BADSHA	Developer Team	1.System/Integration and Unit test Documentation andExecution. 2.System and Detail Reviews. 3.Screen and Report prototype reviews. 4.Change control and Regression testing.
04	MAHIR RAHAMAN KHAN TAHIAT, MAISHA BAPPI SM BADSHA	Testing Team	1.Every Test Documentationand Execution. 2.System and Detail Design Reviews. 3.Test procedure and rules. 4.Change control and regression testing. 5.Screen and Report prototype reviews.

11. TESTING SCHEDULE

Task Name	Duration	Responsible
Documentation	8 days	Project Manager
Design	10 days	Development Team
Test plan	5 days	Test Manager and Testing Team
Unit Testing	5 days	Test Manager, Dev team and Testing Team
Integration Testing	5 days	Test Manager, Dev team and Testing Team
System Testing	10 days	Project Manager, Test Manager, Dev team andTesting Team
Acceptance Testing	7 days	Project Manager, Test Manager and Testing team
Project Completion	5 days	Project Manager
Feedback	5 days	User and Client

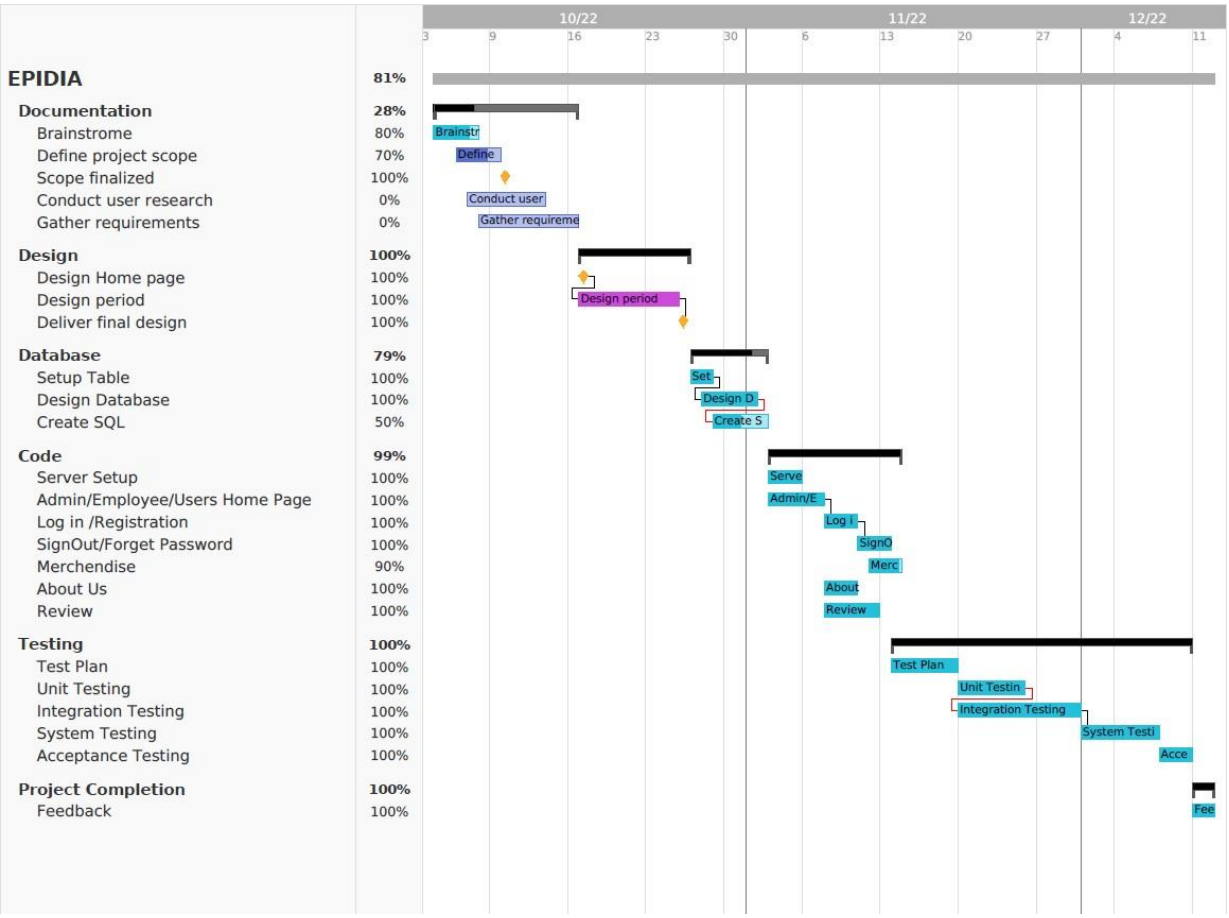

Fig:

12. PLANNING RISKS AND CONTINGENCIES

Risk	Probability	Impact	Mitigation
Error in function	Medium	Medium	Test the web app frequently and maintain daily backup.
Give invalid input	High	High	Tell user to use right data type in each input field
Loss of encrypted data(password)	Medium	High	Maintain security check and backup

13. APROVALS

Project Sponsor	Pass
Development Management	Pass
EDI Project Manager	Pass
RS Test Manager	Pass
RS Development Team Manager	Pass
Reassigned Sales	Pass
Order Entry EDI Team Manager	Pass

14. REFERENCES

- Software Quality and Testing Course PowerPoint Slides
- Software Requirement documentation
- Software Requirements Specification (SRS) Document
- https://www.w3schools.com/