Appendix

Appendix A: Snapshots

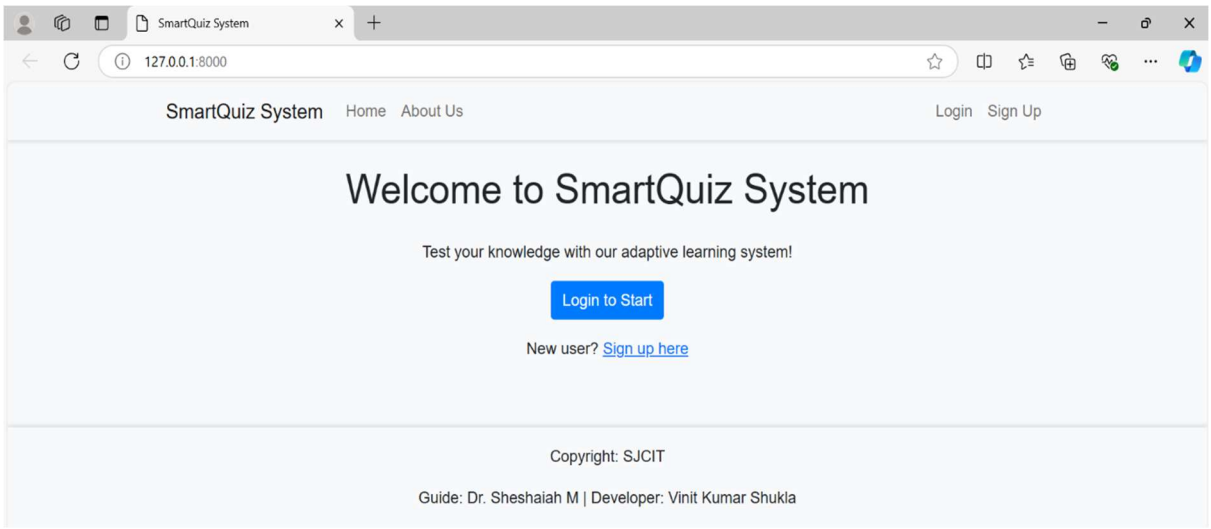

Figure A.1: Home Page

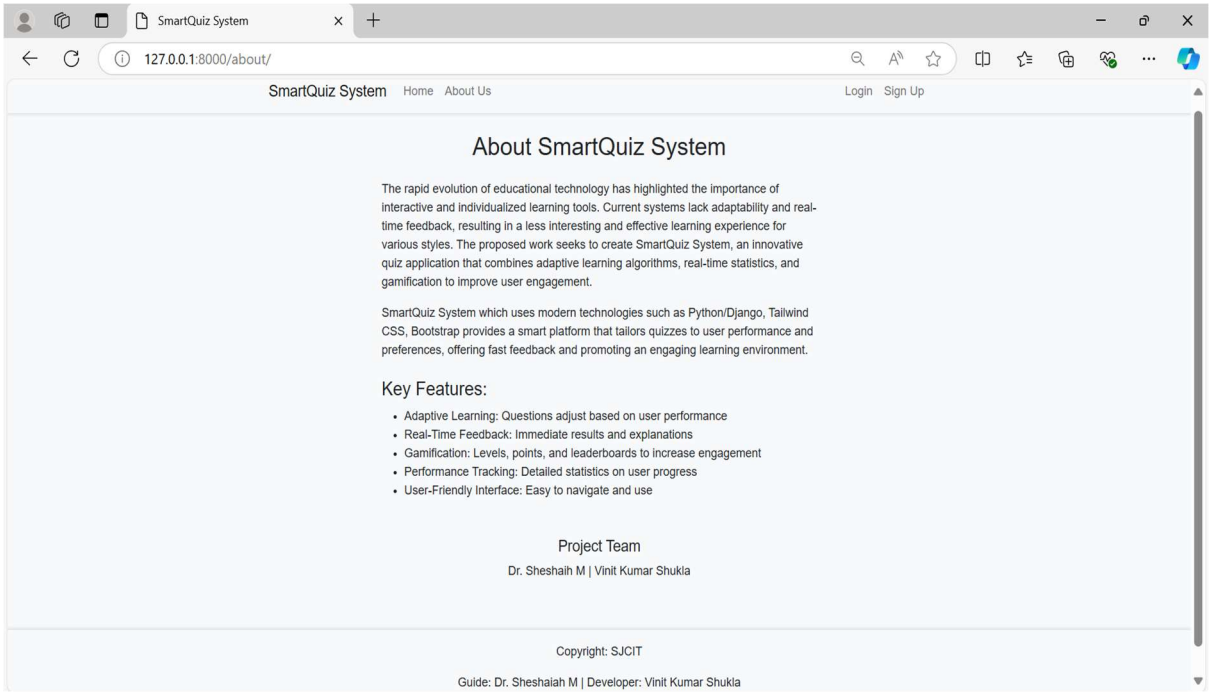

Figure A.2: About Us Page

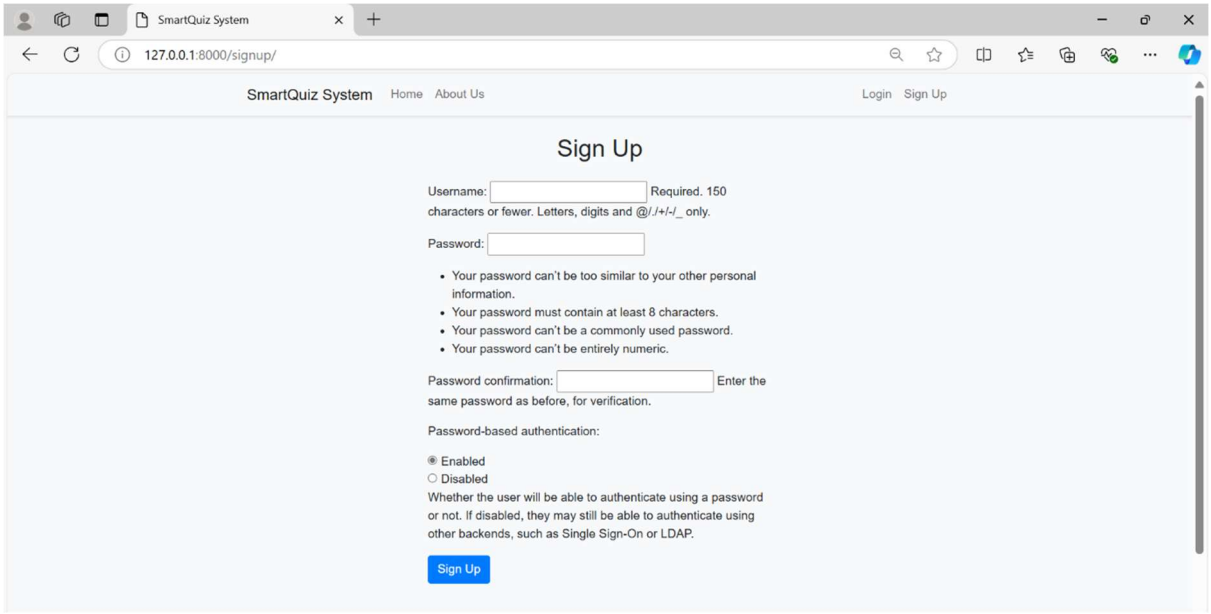

Figure A.3: Sign Up Page

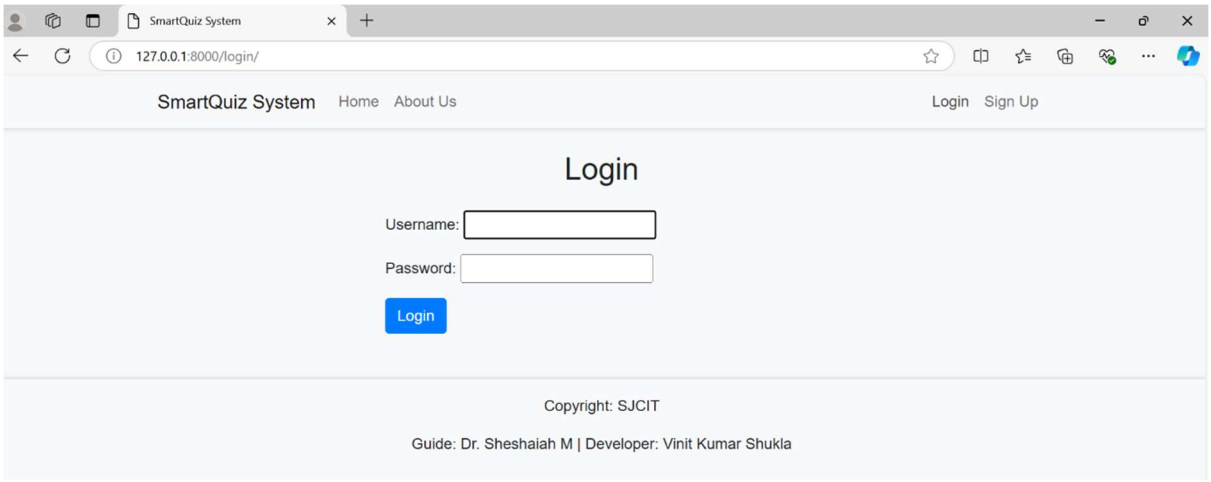

Figure A.4: Login Page

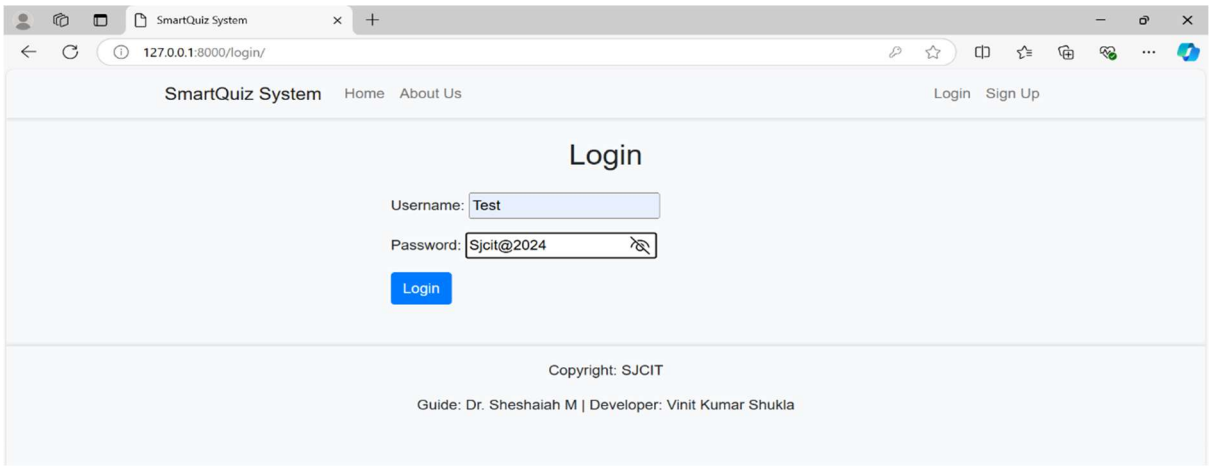

Figure A.5: Login with credentials

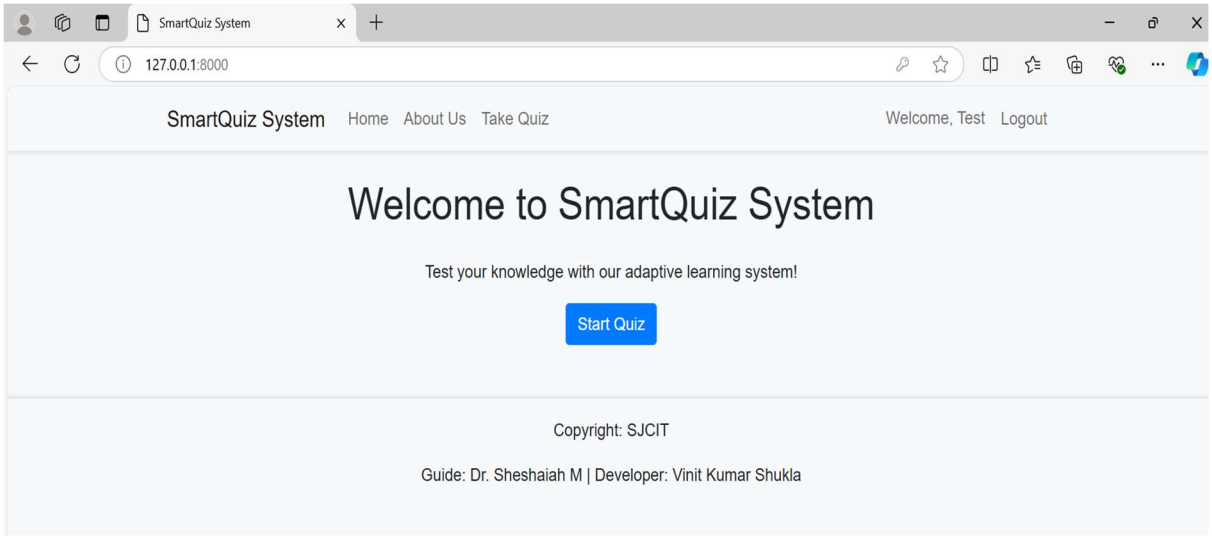

Figure A.6: After login Welcome Page

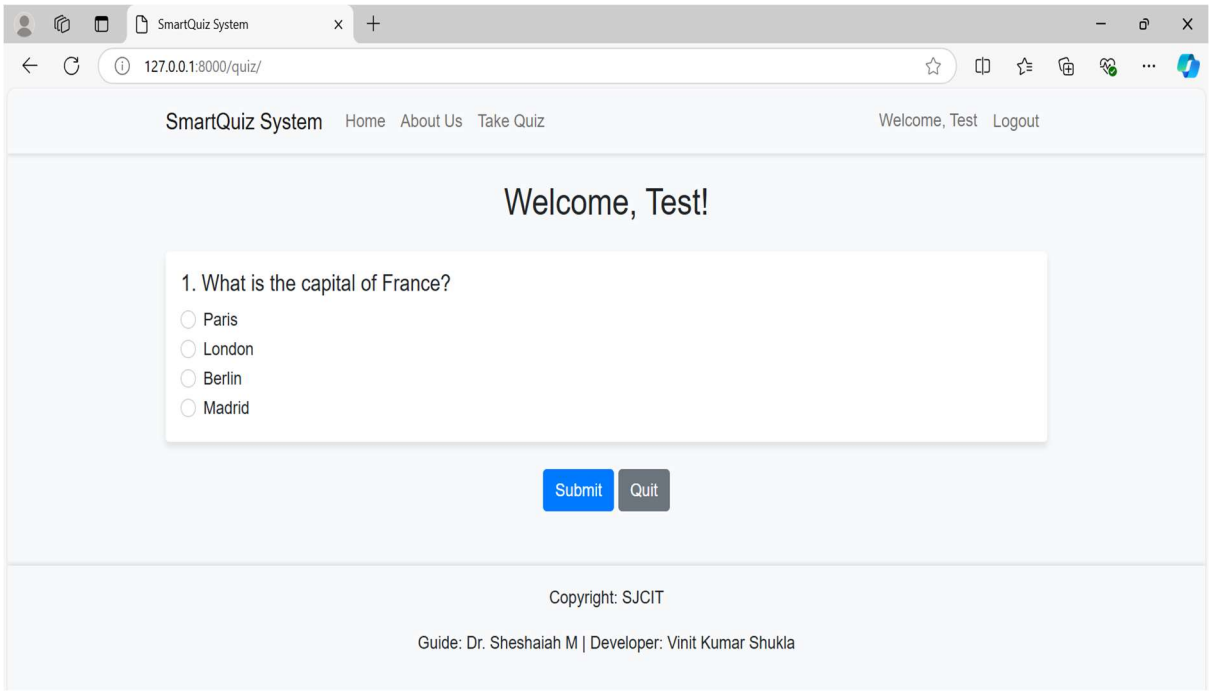

Figure A.7: Quiz Page

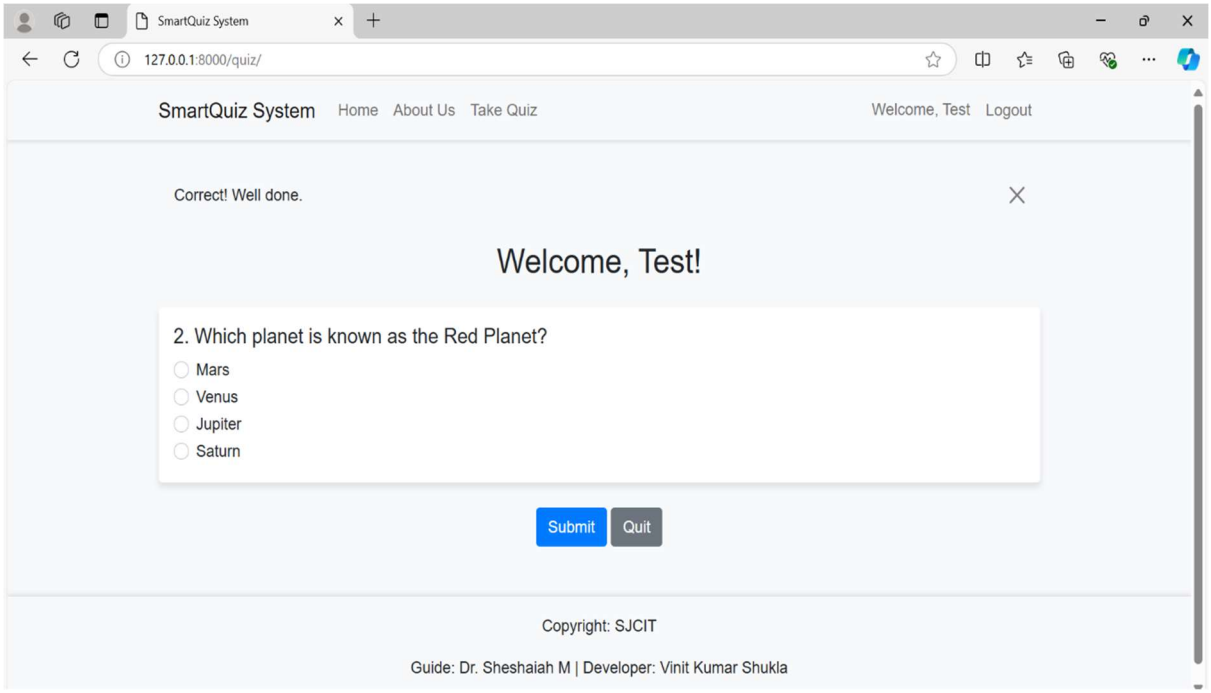

Figure A.8: After Submit, real time feedback and adaptive learning model-based question

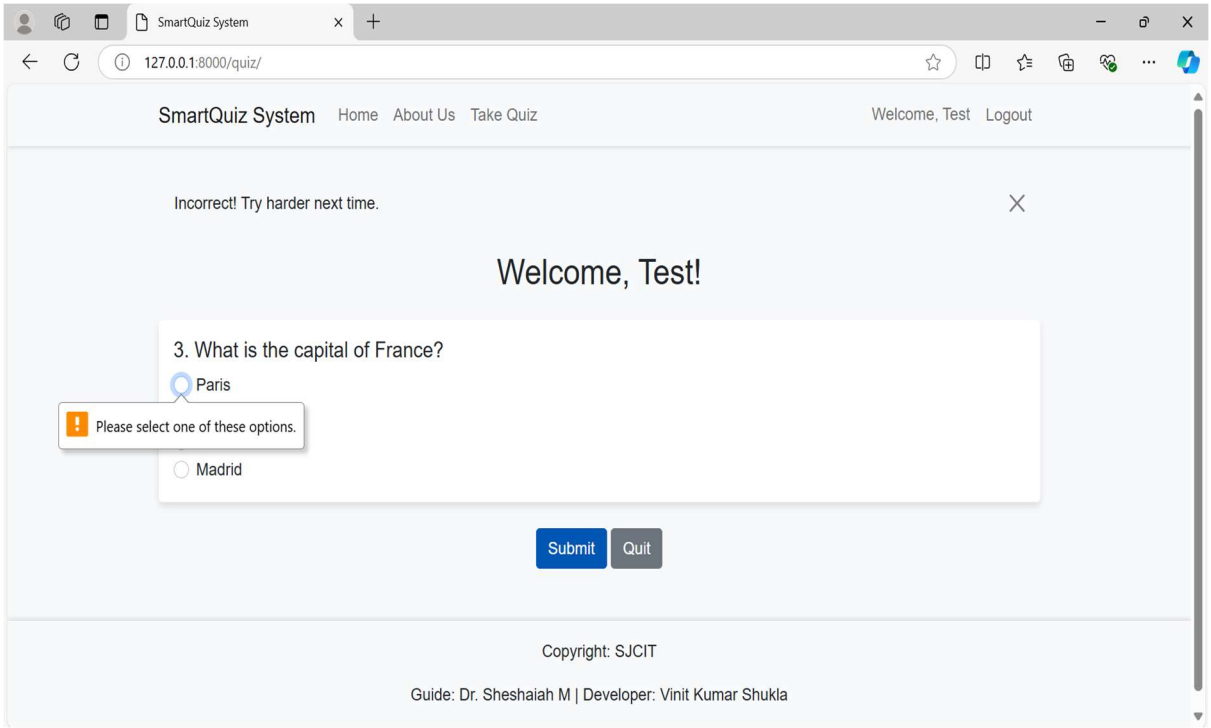

Figure A.9: Based on attempt real time feedback as incorrect

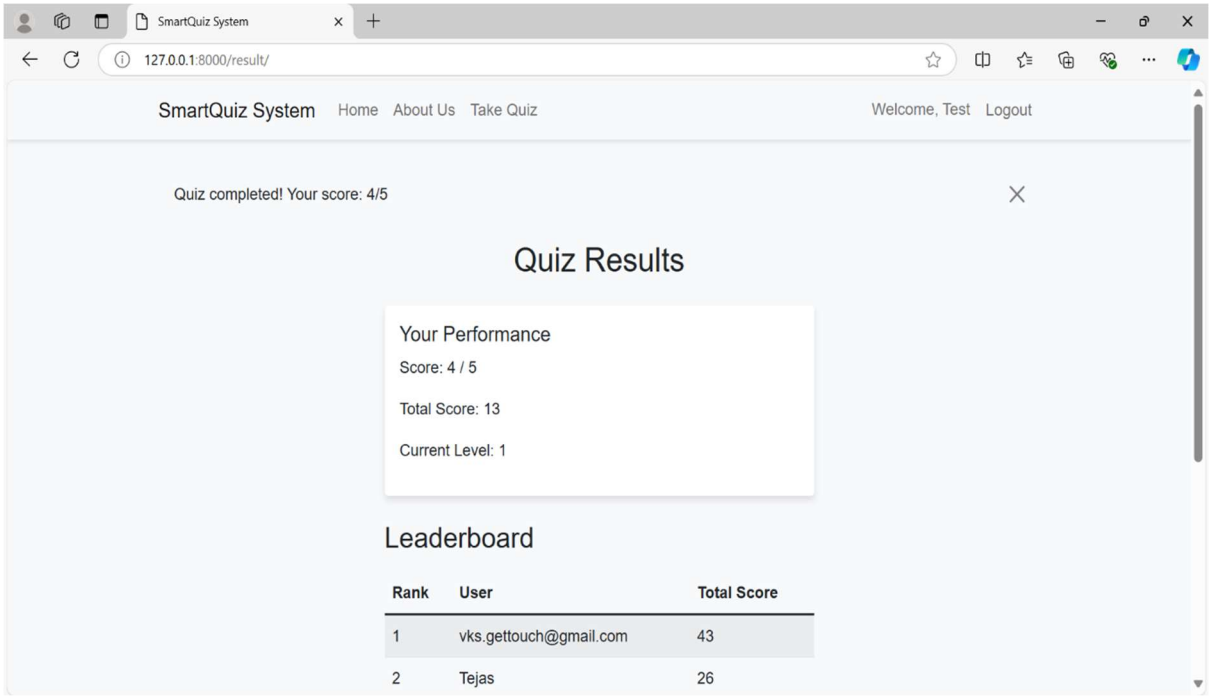

Figure A.10: Result page which shows performance

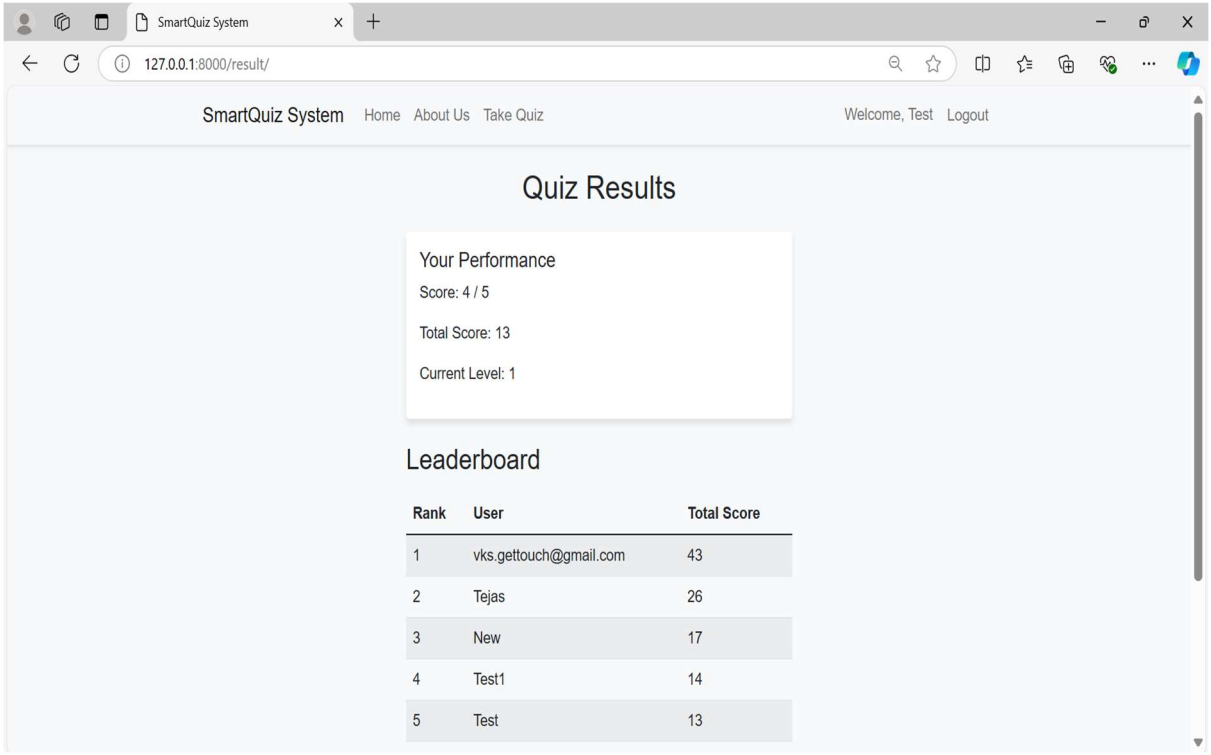

Figure A.11: Gamification based leaderboard

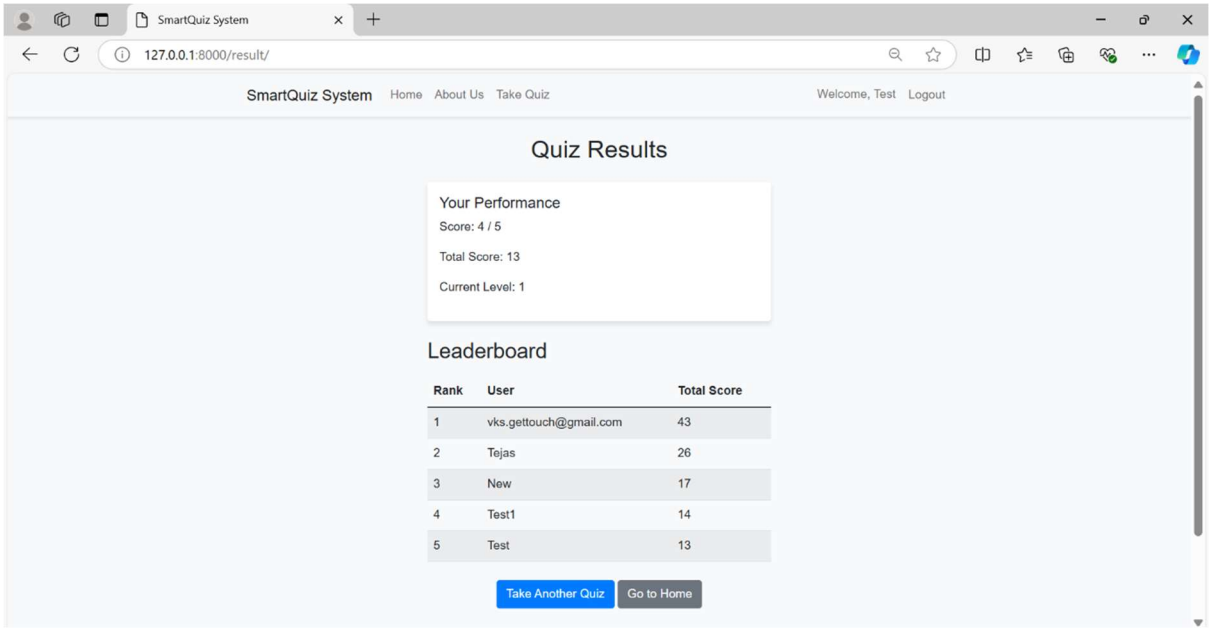

Figure A.12: Option for Take another quiz or go to home

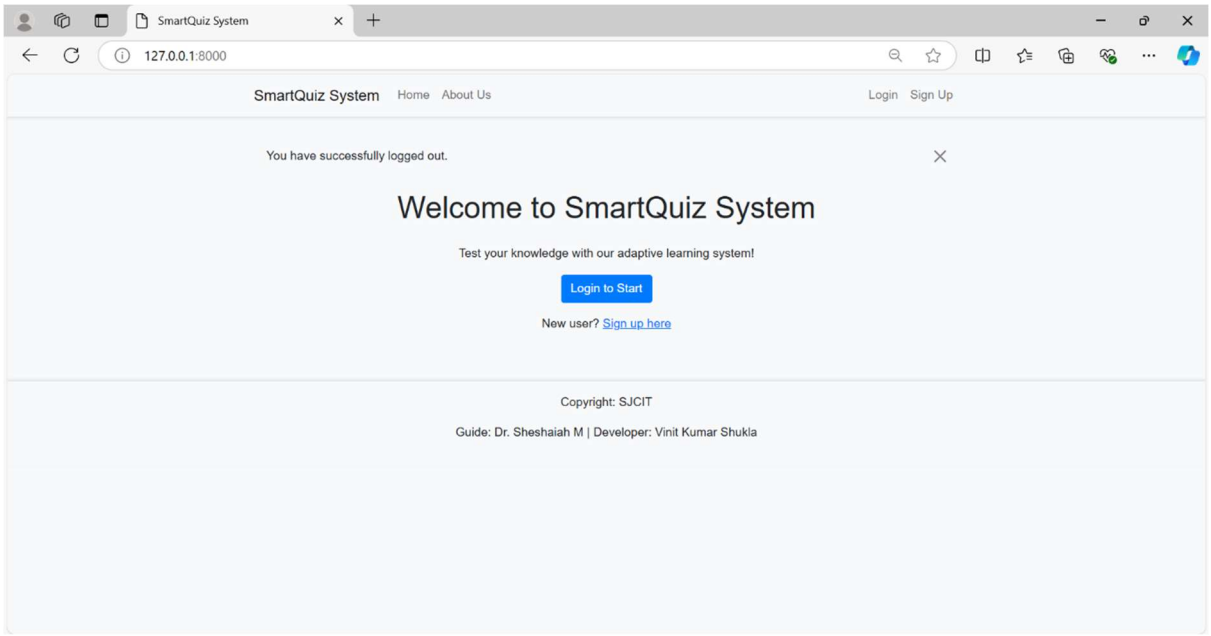

Figure A.13: logged out page

Appendix B: Glossary

i. **Adaptive Learning:** A personalized learning approach that adjusts content and difficulty based on individual learner's needs and progress.

ii. **AI:** Artificial Intelligence, a field of computer science that deals with creating intelligent agents capable of reasoning, learning, and problem-solving.

iii. **Gamification:** The application of game-like elements in non-game contexts to increase engagement and motivation.

iv. **Machine Learning:** A subset of AI that involves training algorithms on data to make predictions or decisions without being explicitly programmed.

v. **User Interface (UI):** The visual elements of an application that allow users to interact with it.

vi. **User Experience (UX):** The overall experience a user has when interacting with an application or system.

Appendix C: Technology Stack

i. **Frontend:** HTML, CSS, JavaScript, Bootstrap

ii. **Backend:** Python, Django

iii. **Database:** In-memory

iv. **Machine Learning:** Scikit-learn or TensorFlow

v. **Cloud Platform:** Heroku (or a similar platform)

Appendix D: Deployment Guide

i. **Create a Heroku account:** Sign up for a Heroku account if you don't have one already.

ii. **Create a new app:** Go to the Heroku dashboard and create a new app.

iii. **Configure the app:** Set up the necessary environment variables and dependencies.

iv. **Deploy the code:** Push your code to Heroku using the Heroku CLI.

v. **Access the app:** Visit the deployed app's URL to access the Adaptive Learning Model Test System.

Appendix E: Security Best Practices

i. **Regular updates:** Keep all software components (Python, Django, CDN, etc.) up-to-date to address security vulnerabilities.

ii. **Strong passwords:** Use strong, unique passwords for all user accounts and administrative access.

iii. **Data encryption:** Encrypt sensitive data (e.g., user information, quiz content) both at rest and in transit.

iv. **Input validation:** Validate user input to prevent injection attacks and other vulnerabilities.

v. **Regular security audits:** Conduct regular security audits to identify and address potential vulnerabilities.

vi. **Monitor logs:** Monitor system logs for suspicious activity and anomalies.

vii. **Implement access controls:** Restrict access to sensitive areas of the application based on user roles and permissions.