WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Mobile Based Online Assessment Application

Evangelin Sonia[1], Brindha Shanmugavadivel[2]

[1]Assistant Professor, Dept. of Computer Science Engineering, Karunya Institute of Technology & Sciences, Coimbatore, Tamil Nādu
[2]Dept. of Computer Science Engineering, Sri Shakthi Institute of Engineering & Technology, Coimbatore, Tamil Nādu

ABSTRACT –

The objective of this project is to design and develop an online Assessment portal that is web based and mobile supported inorder to help students to schedule and take assessments with help of an android based mobile device on the go at any point in time. Students can sign up and schedule assessment slots for the range of available courses and upon successful completion, the scores will be published on screen for reference.

Key Words: android application, assessment platform, online assessment tool, mobile assessment application, online examinations.

1. INTRODUCTION

Online Assessment portal is developed to provide customized range of assessments (entrance exams, technical certifications, bank exams, company-based exams, etc..). Assessment platform helps administer online assessments that can be accessed by students anywhere, anytime over web browser and on any android based device.

.

Fig -1.1: Online Assessment Tool overview

Henke [1] et al., The increasing capacity of wireless communication and the growing number of mobile devices (e.g. smartphones and tablets) on the one hand as well as modern Internet technologies like JavaScript, HTML5 and Web Sockets on the other hand provide new possibilities and challenges in the area of mobile learning (M-Learning).

Challenges faced in tradition examination system include:

- Drafting Question bank and setting question papers
- Physical proctoring
- Manual evaluation of answer papers
- Students to appear in person for exams
- Delayed performance results

This application enables students to take up assessments online via web based and mobile based platform. Students can choose a wide variety of courses and prepare for the exams via demo quizzes whereas staffs can prepare question banks online and share with students and it is observed to be less time consuming when compared to the traditional system in terms of assessment scheduling and evaluation.

1.1 Types of Online Assessment Platform

There are 5 different types of assessments based on evaluation purpose that are used to assess candidates.

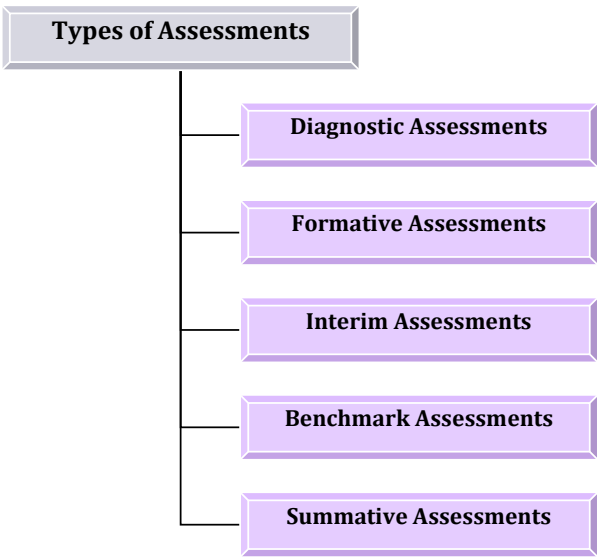

Fig -1.2: Online Assessment Types

1.2 Main Objectives of Online Assessment Platform

This application is developed focusing on below objectives:

- ✓ To evaluate basic knowledge of the candidates
- ✓ To monitor and track the strengths and weaknesses of the students across subject domains.
- ✓ To support both mobile based and web-based views
- ✓ To enable more of practice test sessions for domain-based certification exams.
- ✓ To easily schedule and complete the assessments on the go without any hassle.
- ✓ Easy course management and report tracking
- ✓ To support multiple types of assessment patterns like MCQs, descriptive, match case types, etc.,

The proposed system is observed to be advantageous and futuristic in the following ways:

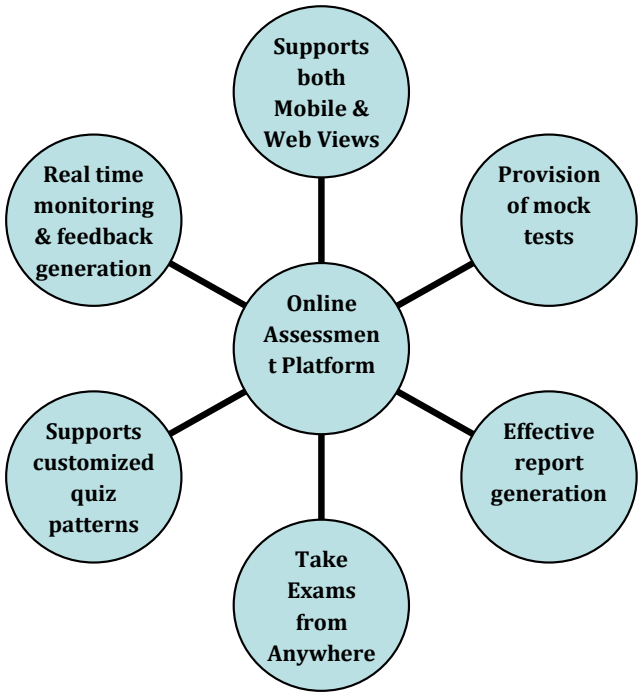

Fig -1.3: Online Assessment Platform - Advantages

1.3 Application Users – Admin & Student

- **Admin** – Manages User accounts, Login sessions, Course addition/removal.
- **Student** – Upon successful login, student can choose required courses, take part in practice assessments, schedule actual assessments and track their performance reports.

1.4 Software Requirements

Below software's were utilized inorder to design and develop the application.

- Angular JS Framework:
  - Complier – V5.2.1
  - Cli – V11.2.0
- Ionic Framework – V5.2.3
- Node JS – 14.15.3
- Npm Package manager – 6.14.9
- PHP

2. PROPOSED SYSTEM

In the proposed system, Admin user can manage:

- User Accounts,
- Login Sessions
- Course alignment – Addition/Removal
- Customized Quiz/Assignment patterns
- Course Completion Status Tracking

Students can sign up/login using the portal and schedule for assessments based on courses available and take assessments via web portal or mobile application and view their performance scores upon completion.

3. RESEARCH METHODOLOGY AND RELATED WORK

Khan [3] et al., A study in Romania explored acceptance of online assessments among medical students using a questionnaire. A total of 240 students from all study years were sampled. Results showed a preference for online assessments rather than oral or pen and paper assessments among these students. However, there was increasing degree of acceptance as students moved into higher year groups, probably as they were more accustomed to the format. This university had been conducting online assessments for seven years which could explain students' confidence in the system

In another university online assessments were used as formative assessments before in-class tests. It was observed that students who used online formative assessments prior to in-class tests for practice, scored higher than those students who did not. However, these results were inconsistent and did not impact performance in cumulative mid-term and final exams. While a clear academic advantage to formative online assessments was not observed, they did not impair grades either.

A quantitative study considered the use of technology, in the form of clickers for assessments within the discipline of science. While 71% students enjoyed using clickers for formative assessments, only 53% felt comfortable using them for summative assessments. Online summative assessments were associated with anxiety of whether the test had been submitted, or if answers had been changed due to technical errors. Students felt clickers took longer than traditional assessments. As with other technological adoptions, students stressed on the need for more practice with clickers.

4. IMPLEMENTATION

The proposed application has various modules in it namely:

Student login module – Students can register, login, take up course works, attend mock tests, schedule assessments and track performance scores.

Staff aspect – Staffs can draft question banks, make important announcements such as exam dates and critical topics to be focused for preparations, give study materials and reference links for exam preparations, post online quizzes, and evaluate the answers and publish feedback reports to students who attend the assessments.

Administrator aspect – Admin user can manage staff/student login, manage course works, enable quizzes for students and generate a detailed analysis of feedback reports for completed courses.

4.1 Experimental Results - Web-Link View

Fig -4.1: Student Login – Course Dashboard

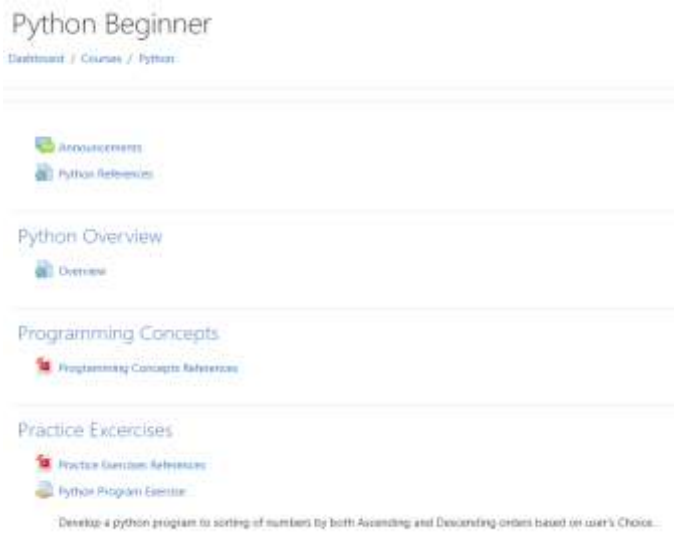

Fig -4.2: Registered Coursework view

Fig -4.3: Schedule Assessments Link

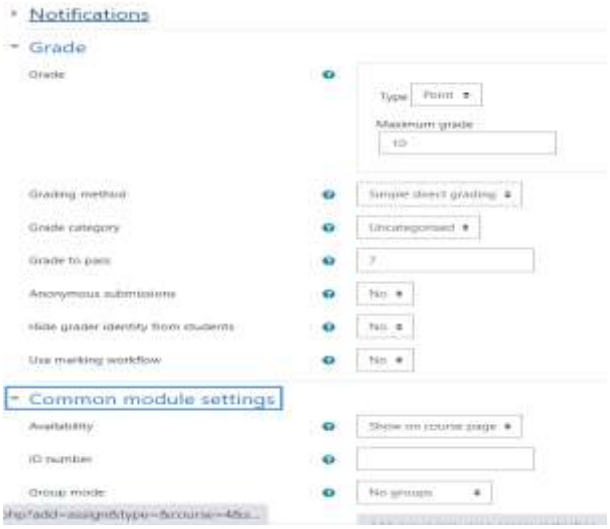

Fig -4.4: Admin Login –Assessment Evaluation Settings

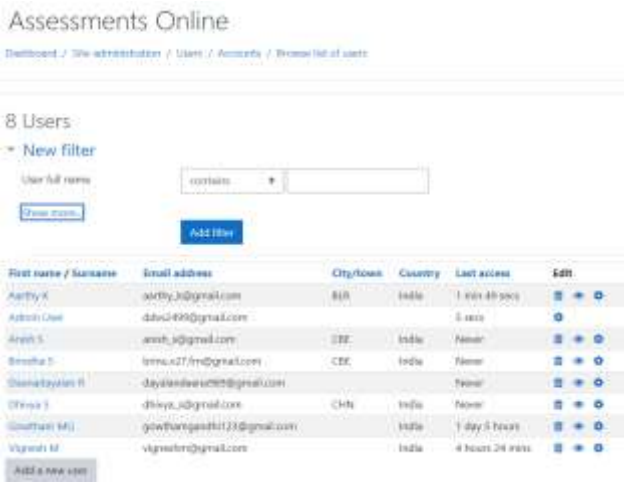

Fig -4.5: Admin Login –User Login Session Management

4.2 Experimental Results – Mobile App View

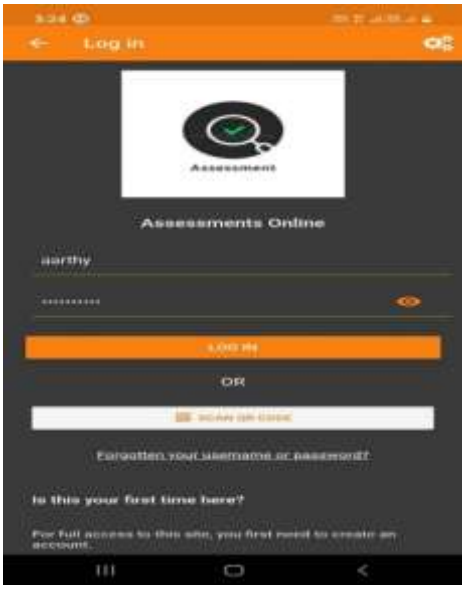

Fig -4.6: Student Login Page

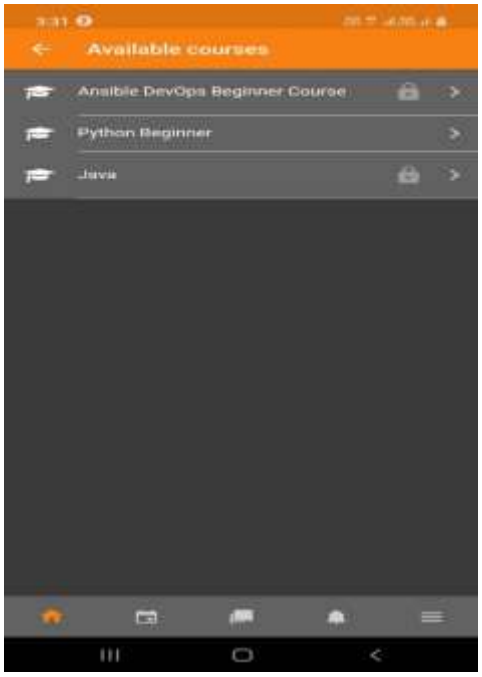

Fig -4.7: Student Login – Course Dashboard

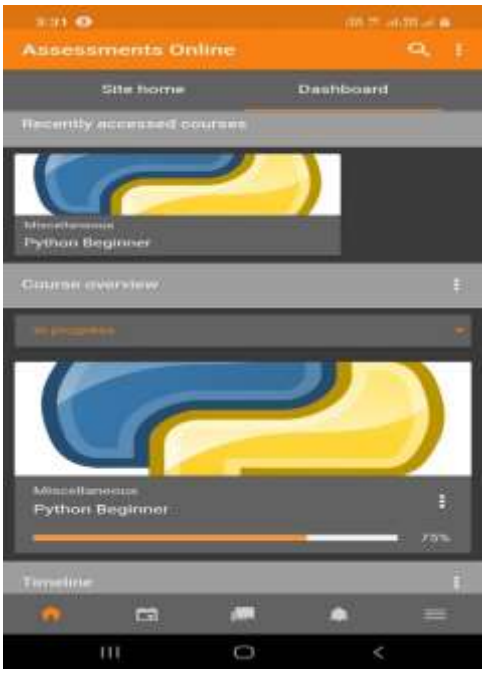

Fig -4.7: Student Login – Course Completion View

5. CONCLUSIONS

The key objective behind implementing this application is to facilitate students and staffs the ease of attending exams online which would benefit them in various ways like:

- ✓ Student Aspect –
  - Take exams on the go
  - Instant feedback report and runtime results
  - Ample practice lab sessions and mock assessments
- ✓ Admin Aspect –
  - Post quiz online
  - Accurate evaluation methods
  - Easy completion status tracking

References

Henke, Karsten & Debes, Klaus & Wuttke, Heinz-Dietrich & Katzmann, Alexander. (2014). Mobile Assessment Tools. International Journal of Recent Contributions from Engineering, Science & IT (iJES). 2. 9. 10.3991/ijes.v2i3.3816.

Joshi, Anuradha & Virk, Amrit & Saiyad, Shaista & Mahajan, Rajiv & Singh, Tejinder. (2020). Online Assessment: Concept and Applications. Journal of Research in Medical Education & Ethics. 10. 49-59. 10.5958/2231-6728.2020.00015.3.

Khan, S., Khan, R.A. Online assessments: Exploring perspectives of university students. Educ Inf Technol 24, 661–677 (2019). https://doi.org/10.1007/s10639-018-9797-0

Betlej, P. (2013). E-examinations from student's perspective – The future of knowledge evaluation. Studia Economize, 152, 9–22.

Spivey, M. F., & McMillan, J. J. (2014). Classroom versus online assessment. Journal of Education for Business, 89, 450–456. https://doi.org/10.1080/08832323.2014.937676.

Struyven, K., Dochy, F., & Janssens, S. (2005). Students' perceptions about evaluation and assessment in higher education: A review. Assessment and Evaluation in Higher Education, 30(4), 325–341. https://doi.org/10.1080/02602930500099102.

Dr. S. Lokesh, Suvetha. S, Swathi. M, "Online Adaptive Assessment Platform", International Journal of Scientific Research in Computer Science, Engineering, and Information Technology(IJSRCSEIT), ISSN : 2456-3307, Volume 5 Issue 2, pp.21-28, March-April 2019.