RESEARCH ARTICLE   OPEN ACCESS

Easy Examination Using Artificial Intelligence

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ABSTRACT

This project is producing a mobile application which is directed to the management and Teaching faculty, who are concerned in the examination process in the department of computer science. There will be two main users, the admin, and the Teaching faculty. The application will help the Teaching faculty in accessing the invigilation schedule to view it and find an available Teaching faculty who can replace as an invigilator. By this application, the examination management will be easier. The admin will be able to manage exams by controlling the schedules and exams halls according to the capacity of each hall. This application will be developed using Flutter which provide an application for Android platform. Artificial Intelligence will be needed to implement the search process. A search algorithm called Monte Carlo Algorithm will be used to find the wanted result of available Teaching faculties in a specific exam time in order to take the duties behalf the responsible Teaching faculty.

Keywords: Examination, Invigilation, Application, Flutter, Teaching faculty, Management.

I. INTRODUCTION

Examinations is an important process in all education institutions, it is having a huge attention. This process costs more resources and effort than any other processes. Halls need to be prepared, onsite multiple invigilators need to be placed in each hall and a lot of confusing paperwork requiring a large number of employees to deal with it. Furthermore, any problem in any hall, a sick student or invigilator would cause a lot of work to obtain. Even taking student absentee list needs a surprising amount of work.

Automated systems are the first idea to go for when thinking in a solution for examinations complexity. Automated systems are widely used in different majors, it makes most kinds of works easier and less-cost. This system is intended to facilitate the examination organizing and reduce the resources needed, therefore reduce the cost. Employees who are responsible for handling examination process and Teaching faculties will benefit of this system in the same way, less confusion due to less paperwork, unified data source which help reducing mistakes probability and an effective way for dealing with schedules. Students would indirectly have benefitted of the system. There will be calmer atmosphere and more trusted way of dealing with their information with fewer human mistakes.

II. WHAT IS EASY EXAMINATION

An application will be introduced which will help the teaching faculty in Computer Science department, it will allow to organize the exam process by helping the Teaching faculties to easily access the invigilation schedule and find a replacement. Also, an admin will be able to manage the invigilation schedule. This project will provide an effective way for maintaining exams' information, comparing to the traditional methods, this will be easier, controllable, and low-cost system. By replacing the paperwork with a unified database and simple UIs, Teaching faculty's will keep efforts to other more important procedure. Also this system will be very helpful in turning the whole department paperwork into computer system, simplifying the paper documents classifying and access, by providing paper formats data as computer files. Using this application will handle humans works and give the Teaching faculties a chance to use human abilities in processes that computers cannot work on. Therefore, more effectiveness and less mistakes. Specifically, this project will benefit Teaching faculty who are concerned with exam process, and other employees who are involved in exams documents.

- Avoiding a lot of Departmental resources to be waste.

- Implementing a progressive system which can solve examinations handlers' problems and making the process better.

- Replacement of teachers during invigilation

III. COMPARISION WITH THE OTHER APPLICATIONS

Most examinations systems focus on online exam process, rather than onsite exams which still

paperwork-dependent process in most institutions. Here are some existed examination systems.

- QORRECT
- WEB APPLICATION BASED EXAM HALL SEATING MANAGEMENT SYSTEM
- THE INVIGILATOR APP

Here we describe the working of existing applications are different than the proposed application.

a) QORRECT

QORRECT is an online exam and assessment platform. It provides several services for any educational institution including management of courses and exams. It allows the administration to manage schedules, courses, online and paper-based exams. Qorrect also provides online proctoring system that helps teachers in their duties of taking attendance and invigilation [5]. Smart-Exam is basically for online services, it helps in exams forms does not help much in organizing onsite examination process.

b) WEB APPLICATION BASED EXAM HALL SEATING MANAGEMENT SYSTEM

A proposed system developed as a website for admin and students. It works on facilitating the process of allocating exams halls and specify halls details from class, time, date and subject before exam starts. The website helps in managing halls allocating but does not concern about students lists or teachers schedule [6].

c) THE INVIGILATOR APP

This app main interest is online examination invigilation. It allows the examiner to choose tools for photo authentication and speech recording matched to the level of security required for each assessment [7].

| FEATURE	QORRECT	WEB APPLICATION BASED EXAM HALL SEATING MANAGEMENT SYSTEM	THE INVIGILATOR APP	EASY EXAMINATION USING AI
App/Website	App and website	Website	App and website	App
Usability for invigilation process	Yes	No	Yes	Yes
Onsite exams halls management	No	Yes	No	Yes
Services for Teachers	Yes	No	Yes	Yes
Services for Students	Yes	Yes	Yes	No

IV. SAMPLE INTERFACE DESIGNS
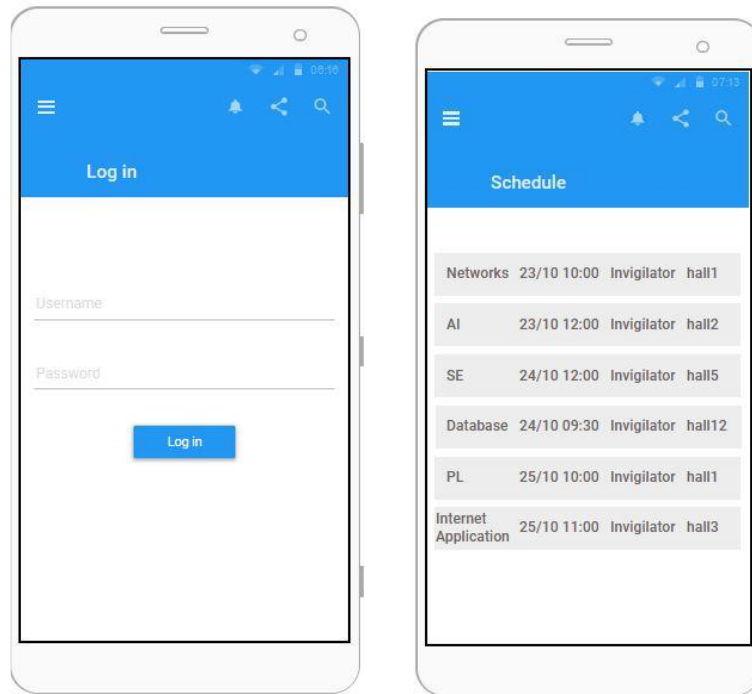
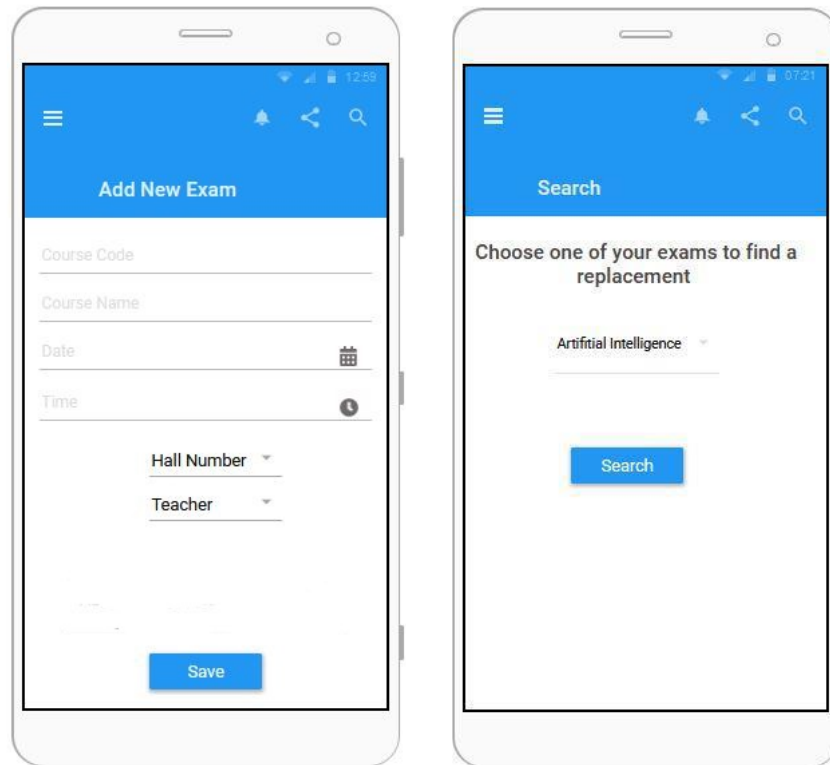**Figure 4.1: Login Interface and Schedule Interface**

Figure 4.2: Exam Interface and Searching replacement Interface.

V.   FUTURE IMPROVEMENTS

Flutter was chosen for frontend development because of consideration of future versions for IOS mobile phone to cover wider range of users and make the application available.

Also, new features would be added to serve students rather than only teachers. These features could be student registration for an examination, and furthermore automate the process of taking attendance by entering the student user to the system.

VI.   CONCLUSION

This project has aimed to study and discuss multiple problems faced in the education fields, especially in examination process. After studying existed systems and detect the lack of services provided, a system was designed in order of solving these problems.

This system has succeeded in embedding technology in on-site examination by providing an Android application that can be easily used by teachers to organize their invigilation duties. Since it is a software product, the project covered the development process, from gathering requirements to testing, hoping the result to be as planned.

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