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Quesher: An effective way to generate Question Paper

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Abstract

Quesher is basically an Android application which emphasises on the generation of Question Paper.
It is an efficient approach towards managing, searching and generation of question papers from a database.

Index Terms: *Quesher, Firebase Database, Android, Android Studio, UML Diagrams etc.*

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1. INTRODUCTION

A Question Paper is a hardcopy paper consisting of questions that are carefully and considerately selected by the author, this is the orthodox method of creating a paper however this is not a very efficient and fast method as it is time consuming and has several considerations to be taken into account such as redundancy, improper grammar and spelling, out of syllabus questions etc.
So we propose to design an application that would help overcome these issues and reduce the time complexity of the entire process using some smart algorithms which will further contribute to the security as well as the overall creation process, the security feature basically implements an encryption protocol for authentication and authorisation.
Quesher is an automated question paper creation application that will generate a question paper even after being input with some key parameters crucial to the paper such as branch, semester, subject etc.
It will obtain the questions from a questions database that will have systematic and ordered list of questions for every subject according to its topics.

2. APPLICATION CONCEPTION

2.1 Drawbacks of Hardcopy Question Paper

Firstly we observed during our educational period that there were a lot of drawbacks that were faced by the teachers and invigilators when preparing a question paper manually, most of these problems had a common problem that was wastage of time other demerits of manual question paper creations are:

- Question papers do not have security if they are in hardcopy
- Question papers do not have authentication and authorisation for editing and viewing.
- Creation of a paper requires searching and analysing
- Question papers cannot be recalled or reedited after deployment
- There is a lot of exertion in time and energy
- Question Papers requires reference papers and books for the source of the questions.
- Questions can be redundantly written.

2.2 Advantages of Quesher over Question Papers

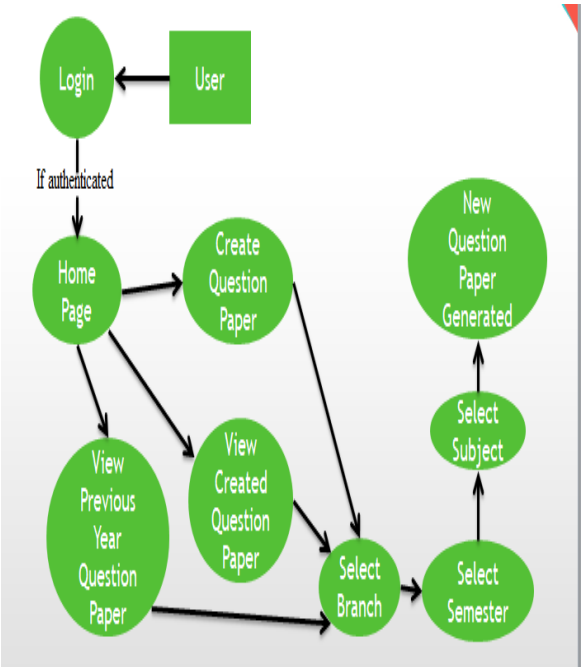
Quesher being a new approach towards question paper generation for educational institutions basically overcomes most of the problems faced by the old method which was the vision behind creating this application.
The advantages being:

- Digital papers have better security.
- Quesher has authentication and authorisation for editing and viewing privileges.
- Quesher has auto-check and grammar correction algorithms.
- As question papers are generated automatically there is a considerate reduction in time and space complexity as the paper is set according to optimum specifications.
- There is no manual effort involved apart from parameter passing.
- There is no need for reference papers or books.
- There is no redundancy or irrelevant questions.
- Papers can be reedited and recalled at any time because it is digital.

3. UML DIAGRAMS

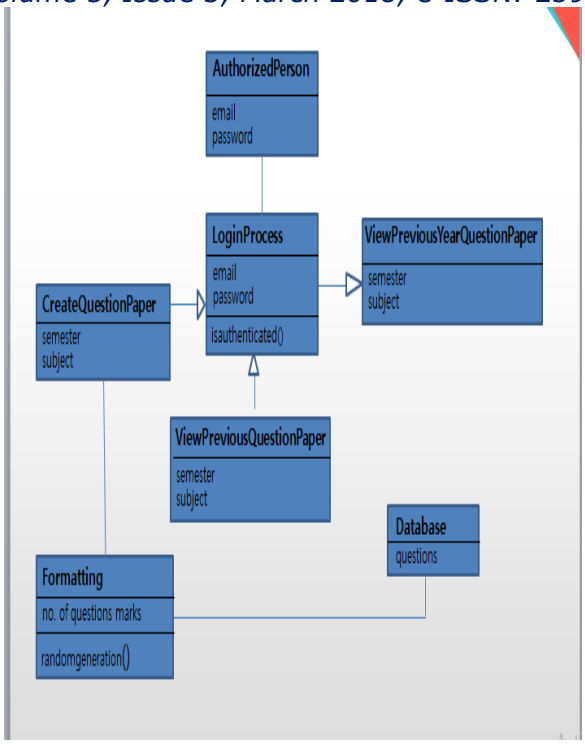
3.1 Data Flow Diagram

A **data flow diagram** (**DFD**) is a graphical representation of the "**flow**" of **data** through an information system, modelling its process aspects. A **DFD** is often used as a preliminary step to create an overview of the system without going into great detail, which can later be elaborated.



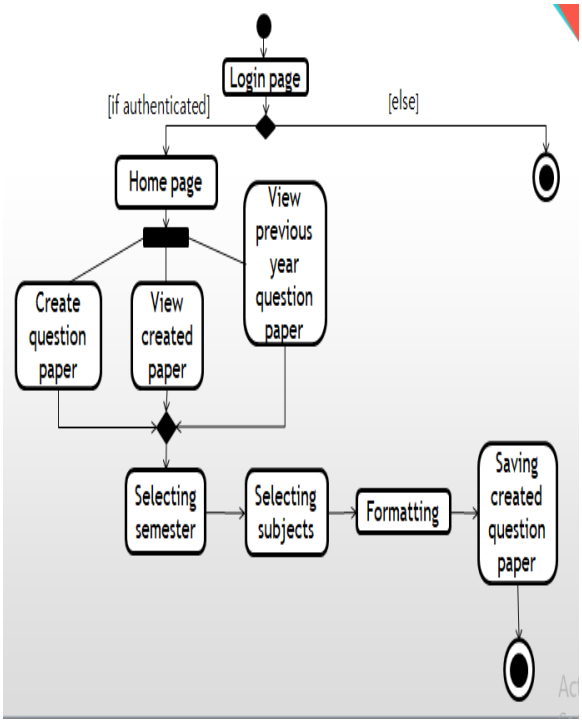
3.2 Class Diagram

In software engineering, a **class diagram** in the Unified Modelling Language (UML) is a type of static structure **diagram** that describes the structure of a system by showing the system's **classes**, their attributes, operations (or methods), and the relationships among objects.



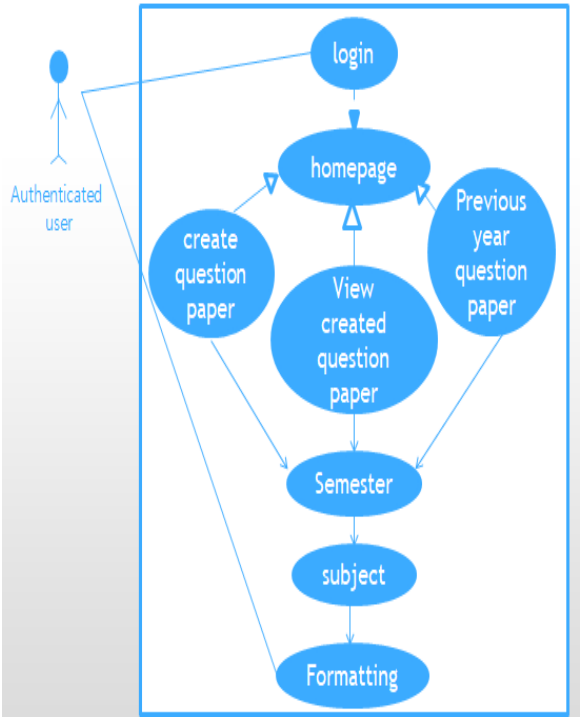
3.3 Activity Diagram

In Unified Modelling Language (UML), an activity diagram is a graphical representation of an executed set of procedural system activities and considered a state chart diagram variation. Activity diagrams describe parallel and conditional activities, use cases and system functions at a detailed level.



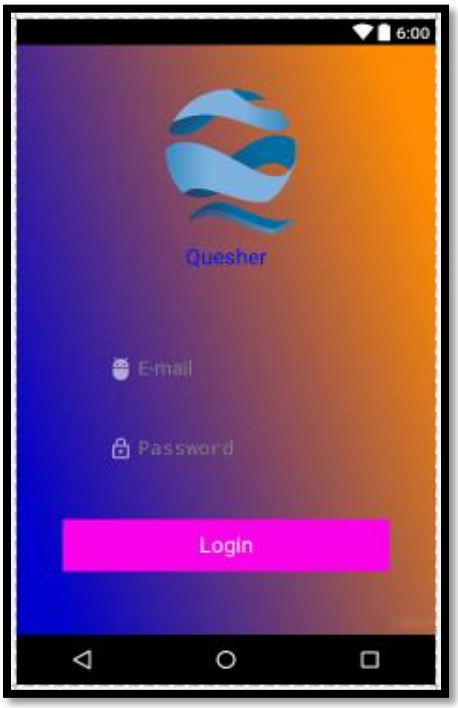
3.4 Use Case Diagram

A use case diagram is a graphic depiction of the interactions among the elements of a system. A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. The actors, usually individuals involved with the system defined according to their roles.



4. SNAPSHOTS

4.1 Login Page



4.2 Home Page

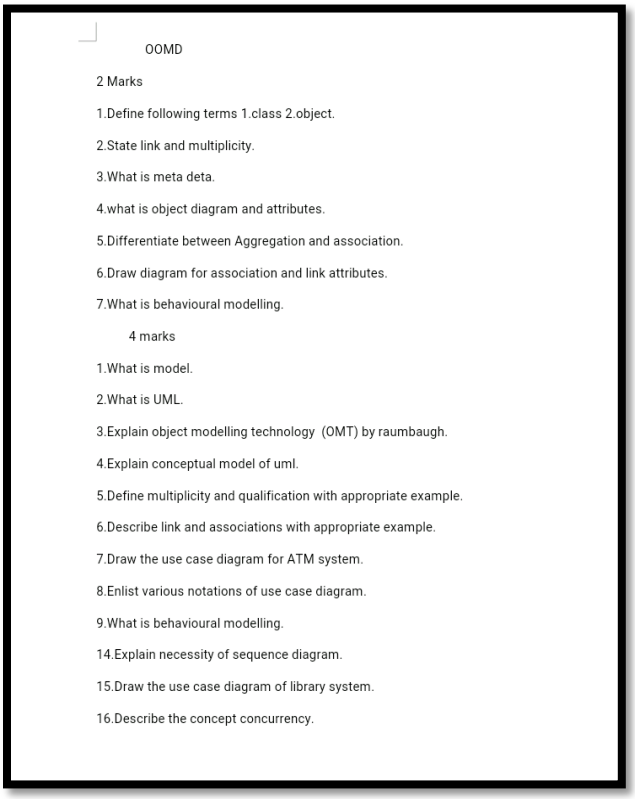
4.3 Create Question Paper

- **Select Branch**

- **Select Semester**

- **Select Subject**

- **Result**



OOMD

2 Marks

1.Define following terms 1.class 2.object.

2.State link and multiplicity.

3.What is meta deta.

4.what is object diagram and attributes.

5.Differentiate between Aggregation and association.

6.Draw diagram for association and link attributes.

7.What is behavioural modelling.

4 marks

1.What is model.

2.What is UML.

3.Explain object modelling technology (OMT) by raumbaugh.

4.Explain conceptual model of uml.

5.Define multiplicity and qualification with appropriate example.

6.Describe link and associations with appropriate example.

7.Draw the use case diagram for ATM system.

8.Enlist various notations of use case diagram.

9.What is behavioural modelling.

14.Explain necessity of sequence diagram.

15.Draw the use case diagram of library system.

16.Describe the concept concurrency.

5. SOFTWARE REQUIREMENT

5.1 Android

Android is a mobile operating system evolved by Google. It is used by various smartphones and tablets.
The Android operating system (OS) is built on the Linux kernel. Android is open source, meaning developers can modify and recast the OS for each phone. Therefore, different Android-based phones often have different graphical user interfaces GUIs even though they use the same Operating System.
Android phones typically come with several integrated applications. Developers can create programs for Android using the free Android software developer kit (SDK). Android programs are written in Java and run through a Java virtual machine JVM that is optimized for mobile devices. The "Dalvik" JVM was used through Android 4.4 and was replaced by Android Runtime or "ART" in Android 5.0. Users can download and install Android apps from Google Play and
other locations.

5.2 Android Studio

Android Studio is the official integrated development environment (IDE) for Google's Android operating system, built on Jet Brains' IntelliJ IDEA software and designed specifically for Android development. It is available for download on Windows, macOS and Linux based operating systems. It is a replacement for the Eclipse Android Development Tools (ADT) as primary IDE for native Android application development.

6. CONCLUSION

This automatic paper generation system is a complex methodological project developed through the inspection of examinations in colleges. It describes the characteristics and performance of each module.
The system allows teachers to act as per their demands and extract MSBTE kind of question quickly from the previously created question papers according to teachers' need.
The major characteristics are frankness, comfort and pliancy.
The automatic paper generation system is a complicated methodological project developed through the analysis of examinations in colleges.

6.1 Future Scope

As a specific environment or situation based application Quesher seems to be limited to the application in educational institutions only.
However if we expand our view point and look at Quesher with a general overview this kind of system can be useful in other organizations as well as Educational Institutions because of the automated technology implementation that is offered by Quesher.
Quesher can ideally be used in all Educational Institutions as a replacement to the manual method because of its vast merits and because time is a crucial element in every organization and Quesher focuses on reducing the time complexity for preparing question papers.
Furthermore, Quesher can be associated with an Optical Character Recognition algorithm and software to identify answers for structured questions and answers based on keywords and terms and hence can have faster computation of grading than manual checking and marking.

7. ACKNOWLEDGEMENT

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8. REFERENCES

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