A Json Webservice Based Android Online Examination System

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Abstract:

The trade that has been benefitted the foremost by the developments in VLSI technology is that of mobile phones. Modern day mobile handsets are mentioned as smart phones and have reached to the hands of each person even within the remote corners of the globe. Yet one more revolutionary research was the event of the mechanical man open supply mobile OS that has created the mobile phones smarter. So, we decided to develop a mobile based mostly examination system to succeed in the population even at the foremost remote areas. An Android driven examination system that we've got designed and implemented is created with associate degree intent to serve the education industry and supply economical and reliable result beside powerful interface. Our system aims at creating the examination system lots a lot of convenient for the scholars as well because the college members and reducing the manual headache required within the ancient method. Google's mechanical man is that the most popular OS globally as well as Asian nation [2]. Mechanical man being therefore popular is often thought of associate degree OS that the lots have employed in their good phones; thence our system is meant considering the convenience of the school and also the student taking the examination. Victimization the impeccable UI functionalities that have been provided victimization the mechanical man Development Kit we've got designed and enforced our system.

Introduction:

Online Examination System with JSON primarily based Support is developed for making an automatic take a look at physical phenomenon and correction system with simple possibility of conducting re-examination to candidates World Health Organization would really like to boost their performance. It conjointly has options like correct time length settings exploitation latest JSON timer management for dominant the take a look at length mechanically and storing it to the XML information whenever the browser is closed accidentally. Then it includes asynchronous automatic updating of answers chosen right away by the respondent into XML information. The user has the choice to require re-exam with permission from admin. This makes this method convenient for conducting examinations to any sector of Examinees World Health Organization would write examinations in their chosen language. Altogether the 3 languages, the queries would get inhabited haphazardly for every login. This makes it secure and sturdy. Furthermore the examinees area unit allowed to login into their elite takes a look at solely once the administrator has given permission.

Since the arrival of education system in any country, there have continuously been strategies to gauge the capabilities of the students. Students are equipped with the topic information in the faculties moreover because the college/universities. At the end of the semester/year examination is that the best suited thanks to judge the topic talent of the scholar no inheritable throughoutthe teaching method. Since the ages, pen and paper forms the only technique of the conduct of the examination. However some establishments like University of Pune [2], Jawaharlal Nehru University, Hyderabad [3], National Institute of Electronics and data Technology [4]. They thought of designing associate examination system that is technologically adaptive with the present desires moreover as causative to the needs of the scholar. The solution was the web examination system. The unprecedented growth in VLSI trade gave rise to the CMOS style methodology [5]. The chips manufactured with the assistance of this technology were noted for quicker logic moreover as minimum chilling. Thus, device size continued to shrink and process speed continued to extend. The results were good phones. These are powerful devices of the age with economical processors and diverse capabilities.

People have found variety of applications for these devices such as attending management systems like attending huntsman, Attendance Manager, Mobile attending [7], etc. A research paper [1] came up with the concept of conduct of the examination through the utilization of mobile phones. The system was enforced on Nokia Qt SDK and was additionally tested on number of mobile devices. However, Qt SDK is currently scalable to automaton devices additionally [8]. Automaton is associate open source software system developed by Google

and also the Open Handset Alliance (OHA) [9]. It emerged as a robust mobile computing platform within the past years and has reached masses. Therefore, we have a tendency to determine to revamp our examination system which will be simply conducted with the assistance of Android mobile OS. Beside ever-changing the mobile OS, we have manifested new capabilities in our system on with rising the present ones. Our system has associate improved interface that is additionally quite easy. The next section discusses the look of our examination system. Section three discusses the benefits of our system. Section 4 provides the varied interfaces of our system. The last section throws some light-weight on the conclusion and future scopes of our system.

We can get any info regarding the method on-line, as a result of it's a web-based application. Convenient reports conjointly may be generated thanks to the JSP XML based mostly writing employed in the project. The system is user friendly with HTML5 controls and WebPages, Text Boxes and Ajax controls like Timer etc... Since the info is XML, a robust ASCII text file info, UTF-8 is well supported, with full normalization and support for all the info properties with quicker knowledge retrievals.

Literature survey is that the most significant step in code development method. Before developing the tool it's necessary to work out the time issue, economy n company strength. Once this stuff ar happy, 10 next steps is to work out that software and language will be used for developing the tool. Once the programmers begin building the tool the programmers would like ton of external support. This support will be obtained from senior programmers, from book or from websites.

By providing Associate in nursing open development platform, automaton offers developers the flexibility to create very wealthy and innovative applications. Developers are liberated to profit of the device hardware, access location info, run background services, set alarms, add notifications to the standing bar, and much, much more.

Developers have full access to a similar framework Apis utilized by the core applications. The applying design is intended to change utilize of components; any application will publish its capabilities and the other application could then create use of these capabilities (subject to security constraints enforced by the framework). This same mechanism permits parts to get replaced by the user.

Android includes a collection of core libraries that gives most of the practicality obtainable within the core libraries of the Java programming language. The robot operational system's support for multi-tasking permits a large varies of mobile security practicality to run within the background, together with virus scanning and automatic backups. Robot package permits for broader multitasking than that different fashionable Smartphone OS, robot devices area unit able to support a large vary of mobile security practicality that runs within the background on a current basis, like machine-driven backups and virus scanning. And with the arrival of two.3.3, robot devices currently supply many unlock choices, together with a numeric PIN, a secret or a graphical pattern. Lock will defend your privacy. (App) Lock could be a nice application for people who would really like to safeguard their privacy. You'll be able to opt for that app to safeguard and which of them to not at the side of having the ability to settle on between secret lock and pattern lock.

Literature Survey:

P.K.Gupta, "Mobile Examination System ", 2012, IEEE InternationalConference on Parallel, Distributed and Grid Computing

Mobile computing has found a number of newer applications today ranging from PDAs and cellphones to a number of applications in the field of education. One such application is the "mobile examination system". Mobile examination system is a technique of conducting the examination without the use of pen and paper. The technique involves the use of a mobile device in the hands of the student through which he/she can take the examination. Result is displayed immediately after the examination ends. The system is consistent with the current technological advancements in the mobile device design & the wireless technology. The motivation behind the design of the system is to find an alternative to the traditional method of conduct of the examination wherein a lot of head ache is involved for both the students as well as examiners (faculty members). The system is basically an extension of the online examination system. The system has been designed in the Qt SDK, a freeware IDE provided by Forum Nokia. The backend database used by us is the open source SQLite. In this paper I have brought out the detailed technical design of my mobile examination system along with the work flow between various modules of the system.

2. B. Hang, "The Design and Implementation of On-line Examination System,", 2011 International Symposium on Computer Science and Society, IEEE Computer Society, Mathematic and Computer Science School, Xiangfan University, Xiangyang, China

On-line online examination system development's overall goal is in realizes in Internet and local area network's online test. On-line online test system is the typical B/S construction system, its development mainly includes the development of the application, the database establishment and maintains. In the application procedure's development aspect, IBM Corporation's My Eclipse is used in design to carry on the programming design. It has introduced the object-oriented programming thought that causes the system interface to be friendly, the function is perfect, and the operation is flexible, easy to operate. At the same time, in the database establishment and the maintenance aspect, My SQL is used as the development kit of the database system. It is suitable for the Unix/Windowes service platform, is the database development platform, which is used widely in the large and middle scale system.

3. S. Chao, Y.B. Reddy, ''Online Examination,'', Fifth International Conference on Information Technology: New Generations, IEEE Computer Society, Grambling State University, Grambling, LA

While there is an enormous amount of material to study, the usage of internet technology is increasingly shielding the need for textbooks. Currently, students spend lot of money for textbooks, while study material is available on the internet. This internet-based examination system is flexible for teachers to set and control the student examinations. There are many features like information sharing between users, departments, institutes, and other interested groups are included in the new system.

4. P. Guo, H. Feng, Qianyao, ''The Research and Application of Online Examination and Monitoring System,'', Proceedings of IEEE International Symposium on IT in Medicine and Education, 2008, pp 497-502, School of Computer Science, Chongqing University, Chongqing, China,

The development of modern education technology has promoted the changes of teaching pattern and examination pattern, the appearing of online examination system (OES) is the best embodiment of these reforms, and the monitoring system is designed to ensure the fairness and impartiality of the OES. The paper provides the structure and function of OES and Monitoring System, discusses the key problems about communication and security and gives the solutions. The system is satisfied with the requirement of network examination well.

PROBLEM STATMENT:

Before making this technique, all the communicating would write the examination manually and therefore the Administrator or the Examiner would have issues of restarting once more the exam whenever the browser is closed accidentally. Conjointly the standard RDBMS knowledge bases ought to be used for all data storage and retrieval operations crossing 3 layers from forepart to JDBC/ODBC driver then to the information. This needs plenty of slow and inefficient method.

DISADVANTAGES:

1. If it's accredited information, then the net examination system is extremely valuable.

2. Typically RDBMS responses area unit terribly slow and therefore, the retrieval of queries is extremely slow for selected user then conjointly the updating of user selected answers into the RDBMS information.

3. Performance degradation on timer could occur because of RDBMS retrievals.

EXTENSION:

The planned system relies on retrievals from associate XML info that may be a novel implementation of on-line Examination System. It is a Hybrid app with native code to asynchronously send or retrieve the information from a foreign Server, by simply putting in this app within the transportable.

ADVANTAGES:

1. Firstly, XML is free and ASCII text file.

2. No separate RDBMS computer code is needed.

3. XML is incredibly quick and platform freelance.

4. Greatly improves timer performance, because the retrievals square measure in no time.

5. No jdbc or odbc drivers needed.

6. Greatly improves timer performance, because the retrievals square measure in no time.

7. The answerer or the Mobile user does not would like the URL of the communication as in net App

Just transfer the .apk of this app and begin communication and complete it to induce immediate result.

Modules:

1. Admin Module:

This module provides administrator connected functionalities. Administrator will add, delete and examine details of staff and may check the standing of a file. Administrator will organize and synchronize all file transfers.

2. Answer Module:

An answerer is one WHO takes the examination. So he has got to tend a username and anArcanum for writing the examination.

The user would be given directions to put in writing the examination and also the queries are inhabited haphazardly to every user and a predetermined time period for the examination would seem as a numeration timer to the user with all queries and decisions to pick from beside a submit button.

3. Result Module:

This is a module for displaying the score of the user when submitting the examination or when the timer times out.

This Module conjointly displays the queries that square measure exhibited to the user before submission and also the selected choices for every question.

It displays the right declare every question in a very tabular format for the user to grasp his performance properly.
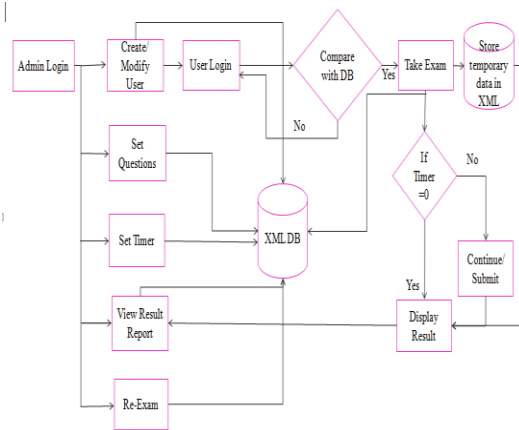
4. JSON Module:

This module is for automatic submission of every choice selected to the XML info for succeeding retrieval just in case of accidental closure of browser or a user system restart or an influence downside

5. Login Module:

This module is separate for each Admin User and also the answerer User. This is given separate as a result of each the users performs completely different roles. Both Admin User and answerer user can login through this module and performs its task.

Architecture of Online Exam:

Conclusion:

The analysis of the project, that has 2 modules is, initial module is for Administrator (Examiner) United Nations agency would conduct the examination whereas the second module is for the tested or the candidate showing for the Examination in their automaton Mobiles. The primary module helps the administrator to make question papers It conjointly helps Administrator to make new examinees and maintain an entire list of candidates appeared for the examination also because the total list of candidates listed for writing examinations. The Second Module is for the Examinees. There's random question sequence to avoid idea and malpractice. The result would be instantly offered for the tested also because the administrator (Examiner). User-friendly screens are provided. It's been expeditiously developed to handle synchronous traffic from candidates taking the examinations at a time. It's been completely tested and enforced. We will get any info regarding the method on-line owing to it Web-based nature. Reports regarding the candidates World Health Organization has appeared within the communicating with complete details beside marks are promptly obtained. The entire list of

scholars listed can also be obtained as report. The information security checks are created to forestall unauthorized access by alternative users, by giving Admin login before user login and additionally by providing cryptography to the usernames and passwords employed by the Administrator and Examinees. The system is user friendly by providing varied input screens and reports etc. Since XML information supports UTF-8 (Multilingualism) and absolutely normalized, it's best suited to on-line Examination System like this. The JSON technology has been used for automatic information transfer of each user data and queries and choices storage in golem SQlite information from remote XML information within the server and additionally for posting the user answers to the XML information on server from the golem SQLite information, for rising the server performance as all the queries are accessible within the shopper mobile and shopper needn't request server every and each question and additionally needn't post each and each answer clicked straightaway to the server however instead post all the answers at the top. All this is often doable owing to JSON based mostly information retrieval and submission to server so reducing load on the server.

Future Scope:

In the close to future, Associate in Nursing golem mobile may be created as an internet server and victimization JSON, the web exams may be conducted on consumer mobiles with none demand of a laptop as Server.

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