CATAPP: A SMART DEVICE APPLICATION FOR WINDOWS PHONE

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Abstract:

CATApp is a mobile application developed for MBA aspirants to help them prepare on the go. It basically lets the user take test on the mobile device and track progress for each category of questions. It is currently available on Android and iOS platforms. Owing to the upcoming release of Windows 8 SDK supporting metro interface, we are planning to develop the app for Windows platform. Windows version of the app will mainly focus on tablets and phones. As Microsoft is working hard to compete with Android and iOS by implementing cutting edge features required for mobile platform, it is the right time to start developing apps for Windows Phone.

Keywords- Windows Platform ; Mobile Application ; CAT ; Test Taking System

1. Introduction

CATApp is a mobile application for Windows operating system which consists of CAT papers from previous years which can be solved by MBA aspirants or any other user. It basically lets the user take test on the mobile device and track progress for each category of questions. The app will focus on running on mobiles and will provide facilities to user like Progress Reports, Experts' Speak and Question A Day. It will also have some shortcuts for easy navigation[1].

2. Related Work

Several tools currently available in the market have been surveyed. Details are as follows:

2.1. *TameCAT App* [2]

TameCAT is about helping conquer the Common Admission Test, required for many management and business administration programs. It helps one to take tests on various topics and builds a strong foundation for the actual test, as well as provides mastery over even the trickiest and toughest areas.

TameCAT's practice tests are not only user friendly, but similar to actual CAT exams. Solutions for complex problems are presented in an easily understandable manner. Tests are timed for that "CAT feel" with exhaustive analysis of attempted tests to help in time management.
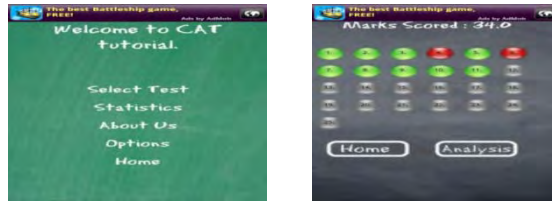
Fig 1. TameCAT

2.2. *MBA Test Prep App*[2]

Striking features of this app are:

Word list: By providing new words daily along with their meaning, it improves one's vocabulary.

Question of the day: It provides CAT-level questions. Also it helps to evaluate and discuss questions with others on TESTfunda.

Tip of the day: It provides a tip help covering all modules - Verbal Ability, Quantitative Ability and Data Interpretation and Logical Reasoning.

Puzzle of the week: It provides competitive logical puzzle every Friday.

Fig .2. MBA Test Prep

2.3. *SmarTest App*[2]

SmarTest is a mobile based test engine that operates over the Cloud. The App is built on Android operating system and hence can be used on any Android based mobiles, tablets or desktops. It is currently being ported for other operating systems like Apple iOS. Although it is primarily developed for helping GMAT, GRE, CAT, MAT and SAT participants in practicing their course content on the go, the tool can be used for skill development in any area, not necessarily limited to these categories.

Fig .3. SmarTest

2.4. *CAT Math App*[2]

This application is not just a question bank; as it takes your preparation to next level by providing effective tools that monitor performance, and review those questions one has answered wrong. Following are the characteristics: It has more than 1400 quality questions covering all facets. Practice questions and examples by topics are provided with step-by-step solution. Six practice quizzes with various difficulty levels are provided. Ability to save quiz for later review.

Fig. 4. CAT Math

2.5. *Minglebox's CAT Prep Android App*[3]

Is an android app that helps students to prepare for Common Admission Test (CAT) through android mobiles.

Identifying the need for a mobile based education solution for students, Minglebox has introduced an android app that enables students to prepare for CAT and take online mock tests right over their mobile phones.

But as the level of question increases the user must pay for it.

2.6. *TCY MBA Preparation* [4]

A perfect application to crack MBA exams like CAT/SNAP/XAT/IIFT. It contains tests on quantitative ability, verbal ability, reasoning, data analysis and mock tests for CAT plus other MBA exams.

TCY Analytics will help the users improve their scores dramatically. Not only does Analytics gives access to detailed score card and answers to questions in each test, it also helps identify the weak areas, the time takers/time savers of the user. It suggests for managing time effectively and strategies the attempt, test after test. The user can check his percentile score and ranking vis a vis toppers of the nation.

2.7. *Logical Reasoning Tool* [2]

This Application helps in improving problem-solving skills by focusing on Logical Reasoning Questions. It helps in career plan and in preparation of CAT, other kinds of exams. The main idea behind Logical Reasoning is to use the information and preconditions to make a conclusion.

Most problems give a variety of conditions and user must use an "if -then" approach. It's important that user reads the whole problem, and chooses the best hint or clue before starting to solve the problem.

2.8. *MBA Skool* [2]

Is the official App of MBASkool.com and one of the most comprehensive management education portal for B-School Students, Business Professionals across the world.

This app is useful to study, learn or share the various management articles, concepts, brands, reviews, fun facts, cell and college updates etc.

It has various sections to help user get what they want in the MBA/Management world.

3. Proposed System

The end software product would be a mobile application for Windows OS.

The app will give access to the previous CAT papers so that the user may take a test and assess him/her based on the marks obtained and progress reports.

It will be useful for the MBA aspirants as it helps them prepare on the go. The proposed app is user-friendly and a good GUI. It also provides offline access to the papers and is freely downloadable.

Windows Phone SDK 7.1 [5] is used for implementing this application and SQLite[6] will be used for local data storage. This application uses an existing registration service to implement user registration/ settings.

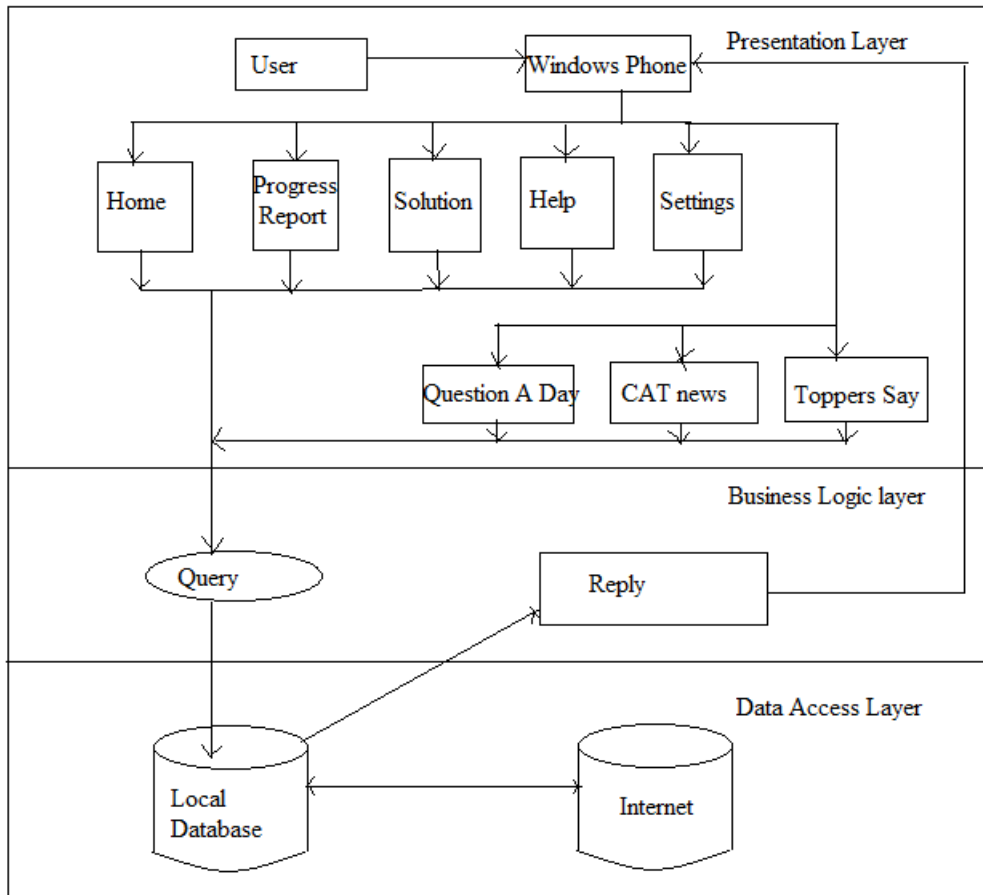The architecture diagram of the application is shown in the figure no 5.

Fig. 5. Architecture Diagram

The architecture is a three tier one including the Presentation layer, Business Logic layer and Data Access layer.

The presentation layer has User Interface consisting of the various features of the mobile application where the user can actually interact with them.

The business logic layer will act as a link between the presentation layer and the data access layer through the Query (from application to database) and the Reply (from the database to the application).

The data access layer has the local database and publisher's repository.

Algorithms Used: Our system will use Binary Search for searching of particular question paper when our user makes a choice. Then sorting algorithm will be used. Sorting is done for the results of the tests that are attempted by the user. User can understand his level of practice and how much he has improved his performance.

4. Proposed Features

Some striking features of this app will be-

4.1. *Take Test*

Here the user can select the paper of his choice and start solving. The papers are provided as year wise or category wise.

4.2. *Progress Report*

After submitting the test the user will be able to view his result.

4.3. *Solutions*

Solutions for the available question papers in the app shall be provided, category wise and year wise. The user can take help of this to know the solutions if required.

4.4. *Question A Day*

Here user can view the latest question added on the Facebook page. As it comes with a hint, it shall facilitate him to solve the same.

4.5. *Toppers Say*

This includes the information and experiences shared by the top scorers of the exam. On reading the same, user may give his feedback in terms of Like / Comments.

4.5. *CAT News*

For the latest news if any, a headline shall be displayed along with a briefing. This shall notify the user of all updates that may be made, from time to time.

Besides the above, it is proposed to provide Help for the naïve user.

Thus there are many specifications which will make our Test Taking system unique, like – being freely downloadable, having a repository of previous years' actual Question Papers (not just the sample ones), integration with Facebook, and provision of tips from the toppers and accepting feedback from user.

In this paper, we have surveyed several existing tools in the market and have done a comparative study. These tools are developed for android based phones. Technical shortcomings of existing tools have been studied, and it is proposed to successfully overcome many of them.

It is proposed to use Cucumber [7] for testing our application. Cucumber is the framework that supports testing of mobile application, websites and other software.

5. Abbreviations

CAT-Common Admission Test

MBA-Master of Business Administration

App-Application

MS-Microsoft

SDK-Software Development Kit

GUI-Graphical User Interface

GMAT-Graduate Management Admission Test

GRE-Graduate Record Examinations

MAT-Management Aptitude Test

SAT-Scholastic Aptitude Test

iOS- Internet Operating System

OS-Operating System

SNAP-Symbiosis National Aptitude Test

XAT-Xavier Aptitude Test

IIFT-Indian Institute of Foreign Trade

6. Conclusion

CATApp is an application based on Windows Operating System. Thus, with the upcoming market of Windows 8, it gives us an encouragement for developing an application for the same. This is a unique application of its kind having features along with test taking such as progress reports for each category of questions, detail solutions for questions, a question for daily practice, and tips from the toppers of previous examinations. It also provides special touch features which may be used marking for review in the form of a tick marked by the user on the mobile screen. As CATApp is limited to only the CAT exam, we can implement it in future for other kinds of exams such as GRE, TOEFL and so on.

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