

Kizopedia: Kids Math Quiz Application

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Abstract -Physical learning in class is no longer applicable to current younger generations. Internet and distance learning, which is across the board. However, online education also has many adverse consequences. Also, as the Technology has drastically improved the existing educational system over the past fifteen years. Self-directed learning, which uses online platforms, has replaced traditional learning by heart. It includes a technology-based education system. Kizopedia-Kids Math's Quiz Application is mathematics quiz application. This app uses a blend of content, media and technology to make learning more interactive and interesting among the students. This app uses a blend of content, media and technology to make learning more interactive and interesting among the students. This work deals with development of an application on android-based which contains MCQ (multiple-choice questions) for mathematics. This application is developed for educational purpose, allowing the users to solve various MCQ's on basic operations of mathematics. The main goal of the application is to enable users to practice for objective type questions which help them to build their command on basics mathematical operation.

Keywords: Kids Maths application, Android-based application, Multiple-choice question, Self-learning, E-learning.

1. INTRODUCTION

Mathematics is the science that deals with the logic of shape, quantity and arrangement. 'Math' is subject which has undeservedly garnered a bad name for being a difficult and boring subject since centuries. Math isn't easy, at least for most of us. It takes hard work, practice and repetition to be able to master each of the different disciplines, from long division and multiplication to solving complex equations. Mathematics, or math, is the

study of numbers and how they are related to each other and to the real world. Math is all around us, in everything we do. It is the building block for everything in our daily lives, including mobile devices, architecture (ancient and modern), art, money, engineering, and even sports. In fact, people sometimes describe math as a kind of language. As nowadays Learning styles have significantly changed. Gone are those days when we memorized the concepts and put it down during exams. The current teaching learning environment prefers personalized learning. The internet, which is the largest network, has become a major tool for teaching-learning process. Students all over the world make use of these modern technologies for learning. One of the latest trends in teaching is M-learning or Mobile learning. App based learning is one of the features of M-learning where the learning process can be done anywhere and anytime.

2. LITERATURE SURVEY

A literature survey was carried out to find various papers published in international journals such as ICCES etc. related E-Learning platforms, Quiz Application and Traditional learning of math's. Mobile learning as an intersection of Mobile computing and E-Learning providing resources that can be accessible everywhere has capacity in an excellent research system, rich interaction and complete support of effective learning and performance-based evaluation.

In the paper presented by Hana Esmaeel, the MQOAP is one of the important modern electronic learning. It helps the students having quizzes using their mobile at identical time permits the examiner specify the date of quiz, add questions, answers and correct answers, also can show marks of student, delete or print it. In addition, the student can show his previous quizzes and their marks with the advantage of giving a very fast result with the decreasing the chance for cheating. [1]

In the paper presented by Mohamed Najm, Abdulla Marwa, Hussain Ali worked on Development of Quiz application is required by the both learners and students to prepare themselves for examinations through smart phones and tablets. The traditional systems do not save time and it need more observes to take exam of many students. The main goal of the application is mitigating administrative work, enable students to practice for subjective quizzes conducted for examine their ability to absorb the lecture. This research deals with the development of Android based Google Forms application. [2]

In the paper presented by GalitBotzer, Michal Yerushalmy, The objective of this paper was to present learning experiences within a mobile learning setting and to examine how sociocultural and situated learning aspects are reflected in these experiences. [3]

The paper is presented by TagreedKattoua, Prof. Musa Al-Lozi ,Dr. Ala'aldinAlrowwad This paper critically reviewed the literature related to e-learning systems and identified some of the most influential factors used in the field of information systems research. More specifically, this paper had an insight on the origins, characteristics as well as the limitations, weaknesses and strengths of web-based learning systems. [4]

This paper is presented by Sruthi P; Dr. SangeetaMukherjee The Biju's App is known for its self-paced learning experience by enabling the students crack down difficult concepts. The app uses a host of modern techniques like web-based learning, visual graphics, video-based instruction, etc. to provide an immersive learning experience. These innovations are highly helpful for the students to understand basic concepts and enable them to prepare for exams. [5]

3. PROPOSED SYSTEM

The “Kizopedia kid's” math quiz application has been developed to override the problems prevailing in the practicing manual System. This application is supported to eliminate and, in some cases, reduces the hardships faced by the existing system. The application starts with login and sign-up page which ensures the safety off user’s activity after that in home page different modules are their i.e., quiz, test, tutorial modules etc. also additional features are there in dashboard. Moreover, this system is designed for the particular need of the user to carry out

the operations in smooth and effective manner.

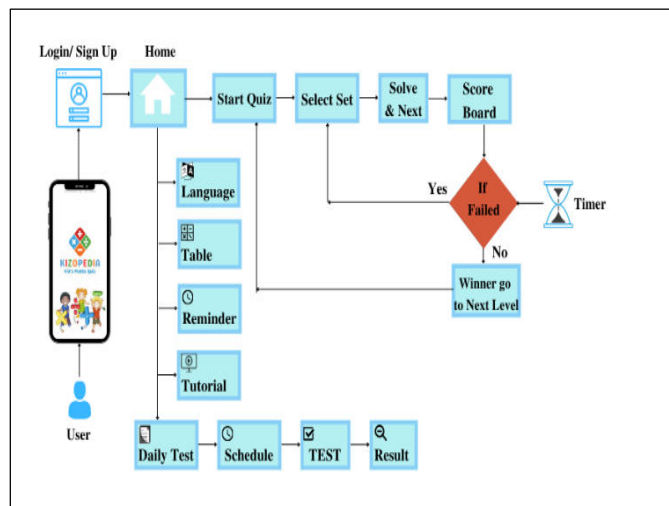


Figure -1: System Architecture

As the user started the application a Splash Screen is seen and then login and sign-up page opens each user as to sign up and login into the application which make the user activity safe. After login and sign up a home page get open in which multiple modules off application is Their i.e., quiz modules, test modules, tutorials, multiplication table. Whereas in dashboard other features off application is there. The quiz modules have three sets known as Integer, Decimal, and Fraction. When a user selects any of the sets either Integer, Decimal or Fraction. In each set there will be a subset such as Addition, Multiplication, Division and Subtraction. After entering into any set, user will now able to play multiple choice questions (MCQs) Quiz, and also there will be time limit so the user can complete their quiz before time. All these data such as numbers, operators etc. were store in database. All these data are stored in SQLite Server, which is an offline database server. In these applications i.e., Kizopedia - Kids Math’s Quiz we have added tutorial, so the user can able to learn math easily. Also, there is daily test option so the user can practice math’s. The system aims to generate dynamic tests with random choice. User can review their score, percentile, rank history of test in report after successfully completing his/her test. This can be used to make learning pervasive and learning will increasingly travel outside the classroom and within the learner's environments virtual and real, thus becoming more collaborative, situated, personal and lifelong.

4. PROJECT MODULE

A) Quiz Module:

Figure 2 shows Quiz module. There are three sections i.e., Integer, Fraction, Decimal for users, where user can learn or practice different operations, such as solving addition, subtraction, multiplication, and division. This MCQ's types quiz, time limit system, lifeline and earning points system in our application assist the children in building their skills more efficiently and interactively. It has four sub-modules for training, namely (i) addition (ii) subtraction, (iii) multiplication, (iv) division.

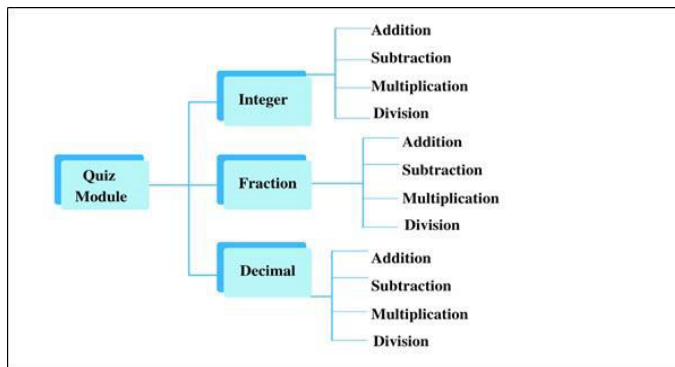


Figure- 2: Quiz Module

B) Test Module:

Figure 3 shows the Test module of proposed system, once the user will click on daily test, there will be a dialog box of time and date schedule will be pop up. So, accordingly the user will select their time schedule of test. And can set Reminder for upcoming Test After completing the test final Result will be shown there.

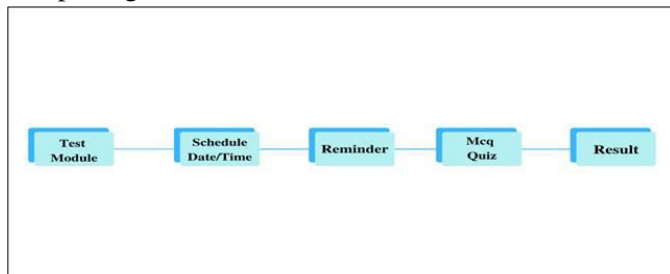


Figure -3: Test Module

C) Tutorial Module:

Figure 4 shows the Tutorial module of the proposed system. Users are now able to watch videos/tutorial. So, by watching tutorials user can easily understand the

concept of math. Tutorial modules will contain useful YouTube links for understanding basic mathematics operations for slow learner and Vedic Math's, Abacus, Comprehensive and reasoning YouTube links for advanced learner.

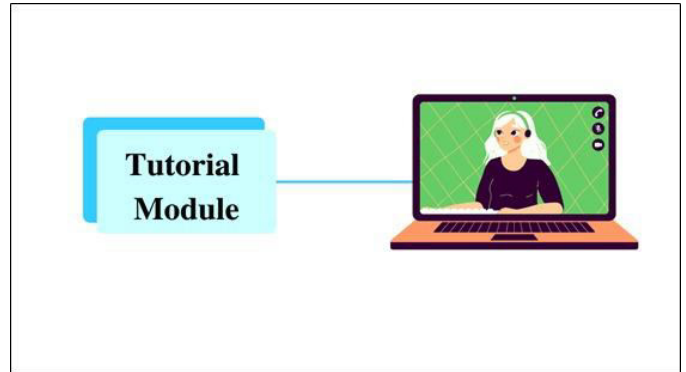


Figure- 4: Tutorial Module

5.PROCESS DESIGN

The Figure 5 shows the complete process design off the proposed system as the user start the application.

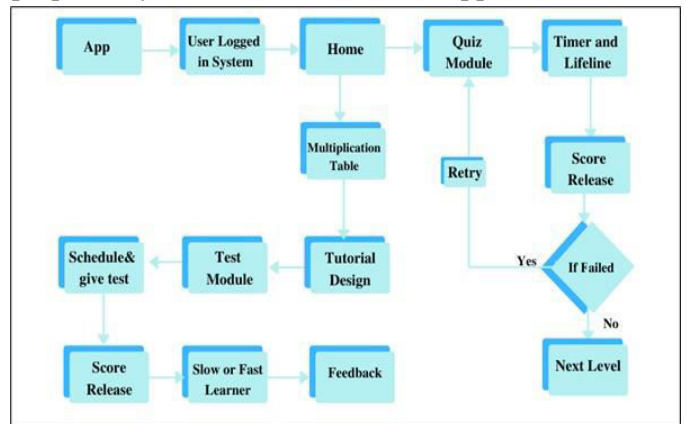


Figure-5: Process Design

First the user has to login the data into Application which will secure the progress of user after that the home page of application is display in that the navigation bar has further features Like language, daily test, multiplication table, about us, feedback and etc. after that user has two option users can attempt MCQ directly or user can go in tutorial section. In MCQ section the user has to choose further section to attempt MCQ which totally depends upon user's choice and the section contains integer, fraction, decimal and score off every section is displayed. In tutorial module the proposed system contains YouTube link which is useful for slow learners for learning. After that user can attempt test and can set Reminder for upcoming Test

After completing the test final Result will be shown there. And then user can fill feedback.

6.RESULT AND DISSCUSION

Proposed system kizopedia is implemented for students off ages 6-7 on basic mathematical operations in an automated way. The quiz application is based on android studio language. This will help the users to take command on basic mathematical operations like addition, subtraction, division and multiplication in quiz game format which help them to understand and get command on it. The proposed system also provides daily test options and user can also track the progress. The proposed system provides various other options like reminder, tutorial, etc. which make the proposed system a user-friendly application. A snapshot of the proposed system is shown below and respectively.

7. SNAPSHOTS OF PROJECT

A snapshot of the proposed system is shown below and respectively. In figure 6 shows splash screen, sign up page and login page the user has to sign up and login into the application if the user is new to the application user as to sign up into the application by providing its name, email and password then user can login into the application since by adding this feature which make user activity safe and application user friendly

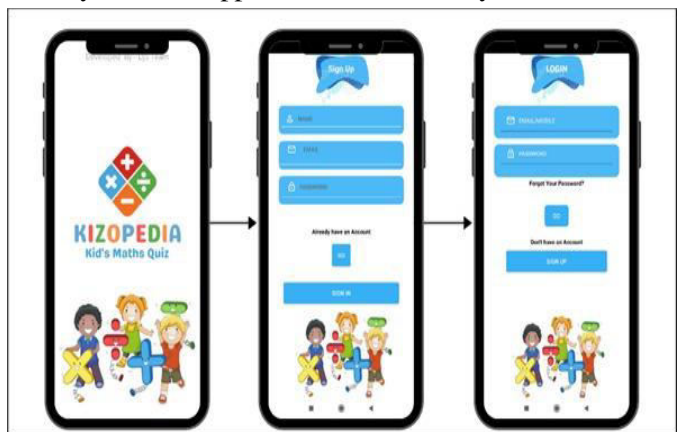


Figure -6: Splash Screen, Sign up page and login page

In figure 7 shows Navigation bar, home page, and sub set off quiz module where Navigation bar contains additional features off application like daily test, multiplication table reminder etc. and in home page the quiz module is shown where different types off

questions are there. Quiz module off Application as the user star's attempting quiz after completing all quiz questions then the score page get open after that user can see solution page by giving coins

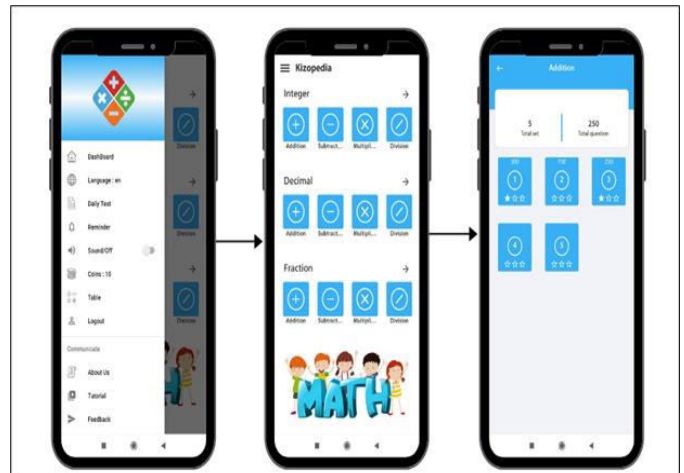


Figure:-7: Navigation Bar, Home pageand subset

In figure 8 shows Quiz page, Score page, Solution page This figure comes under quiz module in which the quiz page has multiple set off Mcq type questions where each set contains 20 to 25 questions each after that in score page score off the individual user is shown where user can retry the same set or go to the next set off questions. After that the solution page off the set gets open in which user can see the solution off questions.

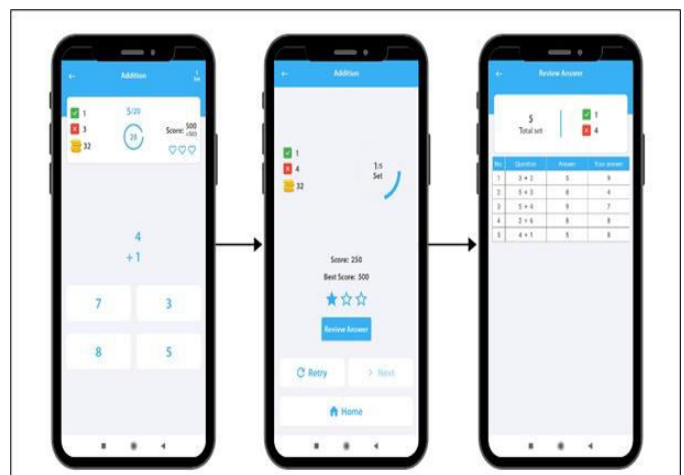


Figure- 8: Quiz Page, Score Page, and Solution Page

In figure 9 shows The Schedule Page, Reminder Page, and Test Page in which user can Schedule its upcoming test and can set Reminder for it which make it easy for user. Also, in test page user can give test and can see the results at the end

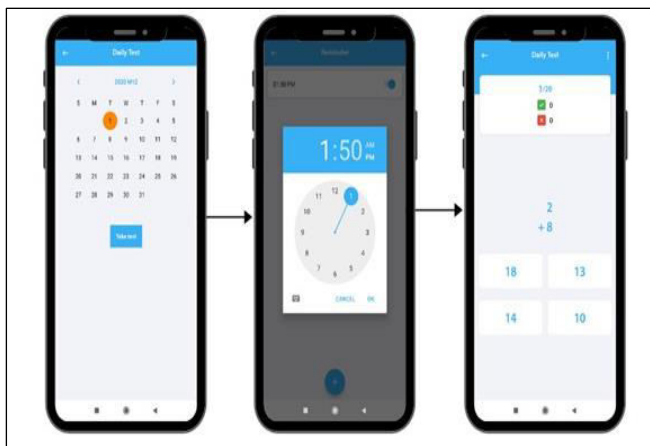


Figure- 9: Schedule Page, Reminder Page, and Test Page

In figure 10 shows The Multiplication table, Tutorial page, and feedback page where this are the additional features off the application which make the application more useful .user can learn multiplication table by using table feature. User can also see Tutorials where YouTube links where provided by using this features user can learn new things which is ultimately beneficial for user also user can reach us by providing its valuable feedback so we can improve more

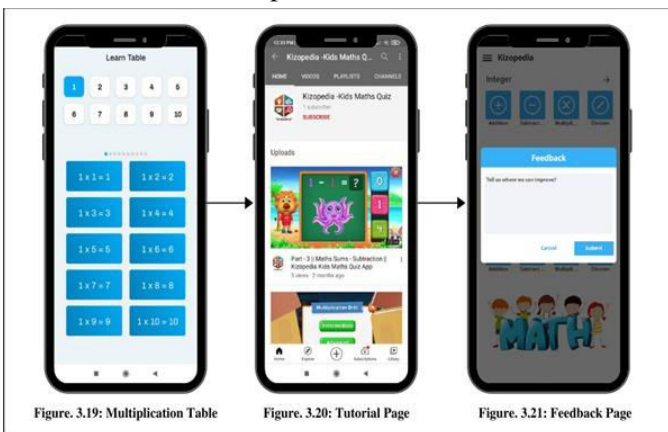


Figure -10: Multiplication Table, Tutorial Page, and Feedback Page

8. CONCLUSIONS

In conclusion, online education is one of learning methods that can benefit both students and educators as it has become increasingly popular learning approach due to the growth of internet technologies. The proposed System is designed so that it will be accessible at any time anywhere without any internet connection. Kizopedia: kid's math quiz application can be used to make learning ubiquitous and Learning will move more and more outside of the classroom and into the learner’s environments, both real and virtual, and one can easily

get commands on basic mathematical operations thus becoming more situated, personal collaborative and lifelong. Proposed system presents the secure, reliable, dynamic and stable offline E-learning based math’s quiz application

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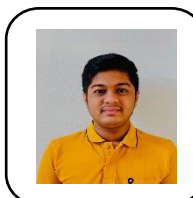
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BIOGRAPHIES

Mrs. Vishakha Shelke received M.E Computer from Savitribai Phule University. Currently working as an Assistant Professor and Project Co-coordinator in department of Computer Engineering at Universal College of Engineering, Mumbai. She is Faculty Head of the “Smart Organic Farming” initiative at UCoE. She has 11 years of teaching experience. Her area of interest is Machine Learning, Artificial Intelligence.



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