

Understanding Hidden Meanings of Quran's Words Using Mobile/Android Application

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Abstract

With technology getting to the next level, many resources cannot only educate our children and youth, but also let them know what our religion is all about. The idea is to educate and make our children aware, but in a way that makes them happy and suits the cause. Designing an application, which let users know about various verses and words of Holy Quran in easy way, is very important. This study helps children to relate all those words with real life, reel life and later then will recognize them easily. The illustration in this study plays a key role to do the research in a right way. In this paper, the application can do a lot of experiment with puzzle and other random applications. Moreover, that application gives children an opportunity to use their brain in order to recognize, the Quranic words in an innovative way, which will serve them in the knowledge about the Holy Quran. From our experiential results around 50% of Children using this application for our dataset were satisfied with the application.

Keywords

Application, Holy Quran, Education

1. Introduction

It is amazing how some kinds of games can be a great help to our children. At least, there are some educational benefits in gaming. First they develop skills such as narrative and trans-media skills, they challenge our thinking and exercise our minds. Puzzle is a kind of game including hidden object game (HOGs) which is the most well-liked genres of Internet games and the most searched for and successful games on the market today [1].

HOGs are a genre of online puzzle video games that the player must find several items from a list, hidden inside of a picture and can be categorized into two

main categories: hidden clue games and hidden picture games. Today one of the most well-liked online hidden object games is named “Gardens of Time” by Playdom [2]. The game can be played either at Playdom.com or on Facebook. So, we thought of developing an application for helping kids practice Quran by knowing meanings of words so that when they start memorizing Quran, it will be easy to understand the meanings of the words.

Android is the most popular mobile platform in the world which development is becoming an increasingly popular field [3]. For developers who want to target a huge, diverse audience, and demand use of computer system software has been implemented from PC, mobile and even other means of technology and applications or games are now invading it. In years, games are also being implemented using the World Wide Web.

This paper is introducing understanding hidden meanings of Quran’s words using mobile/Android application. The main contributions of our research work include:

- The application can do a lot of experiment with puzzle and other random applications.
- The application gives them an opportunity to use their brain in order to recognize, remember and re-produce the Quranic words in the way they want.
- Children are sharp at the young age and with these kinds of Application, we can surely provide them a platform, which will serve them in the knowledge about the Holy Quran.

This paper is organized as follows: Section 2 explain the related work. Section 3 discussed the paper methodology. Our application results are observed in Section 4. Section 5 focuses on Conclusion and Future work.

2. Related Work

2.1. Criminal Case

Criminal case [4] is a well-known hidden object game in which is developed by “Simple Games” on Facebook. In this game, player is the police officer character and he has to solve the series of criminal cases. In starting of the game, player will be provided by a list of hidden objects and you have to find those objects which will be the clue to solve the case. Stars are the main part of this game; you will need stars to progress the game to do investigation about the criminal like autopsies, examining clues and communicating with suspects. The more stars you collect the more progress you made. The game becomes harder and pretty amazing on the progressing period. This game is so interesting that people who inspire detective themed games will get hooked to it as shown in [Figure 1](#).

2.2. Castle: Never Judge a Book by Its Cover

Richard Castle and Detective Kate Beckett are one of the teams that are not only ruling the television industry by their murder investigation series and dynamic twists and turns of the lives of the New Yorkers, but have also stepped down in

the gaming industry [5]. “Castle: Never Judge a Book by Its Cover” game is the hidden object game where the players are responsible to undercover the hints and the clues which will lead them to the authentic murderer and close the investigation case with another success as shown in [Figure 2](#).

Kate and Castle are also part of this game as they are featured with dynamic 3-D structures in the respective game as they work around in new and unique crime scenes which sometimes make the user confuse and lead them off the course. It is a classical renovation of Sherlock Holmes, as he also had to make investigations and solve mysterious by getting criminals behind the bars and getting justice at the end. This story has more mysterious.

2.3. Mystery Crime

Life is boring if there is no fun and hidden object games are amazing. The game



Figure 1. Criminal case logo.



Figure 2. Castle: never judge a book by its cover.

Mystery Crimes puts you behind the detective badge as you solve crimes in the sole manner you recognize by finishing hidden object scenes. Mystery Crimes is split into two main areas of play: hidden object scenes and inquiring interludes.

Mystery Crimes options 3 forms of currency to figure with: gems, energy bolts, and stars. Energy bolts are spent to enter crime scenes to go looking for clues. If there is no energy it means that player hasn't hunted anything, however it refills (slowly) as time passes.

Gems can be spent to make the tasks quick, like encouraging the team to investigate. They additionally permit you to hold power-ups into every hidden object scene at amazingly abrupt amount. Eventually, stars are spent to interview suspects and analyze clues, kind of like energy bolts for the inquiring aspect of things. In this game you can investigate a variety of scenes of your interests to keep you amaze all the time as shown in **Figure 3**.

2.4. Doli Alphabet

It's a game [6] that make kids learn alphabets while searching for them in a picture, as seen in the figure below there is an "E" letter where the kid will try and locate it from the picture. This game really helps kids in memorizing the alphabets and learning them as shown in **Figure 4**.

2.5. Hidden Object Games

Hidden object games [1], often called HOGs or really are a genre of online puzzle video games that the player must find several items from a list, hidden inside of a picture. As we know the young people are have a natural ability to notice the little things that adults have a tendency to miss. Furthermore, that explains why the first hidden object pictures were targeted in direction of a younger audience . Hidden object games can be categorized into two main categories: hidden clue games ,and hidden picture games. In the hidden clue games, the player has to locate the hidden clues to solve the story and makes you put on your thinking cap to solve the mysteries.



Figure 3. Mystery crime.



Figure 4. Doli alphabet.

Hidden picture games in each stage you're given a list of items to find in the current picture. Some will have an impact on the story, some are simply there to keep things interesting, but all of them need to be found. Today one of the most well-liked online hidden object games is named "Gardens of Time" by Playdom. The game can be played either at Playdom.com or on Facebook. This approach is applied in this study.

Previous researchers were focused on developing methods to achieve accurate and funny games and entertainments for children. The main drawbacks of the previous research works were, they use a games for fun only not for teaching or knowledge. Therefore, previous works lack some promising features that could enable us to give children an opportunity to use their brain in order to recognize, remember and re-produce the Quranic words in the way they want using Hidden object games.

3. Proposed Method Methodology

A methodology is the steps or technique we will follow in our study, there are many methods, as waterfall, incremental, Agile and others.

3.1. Agile Model

Agile methodology is considered one of the best methodologies to develop a software. Software's developed using agile methodology are more efficient than others produced by other methodologies.

The Agile method as shown in **Figure 5** splits the project to iterations. Each phase or iteration is developed, tested as a single task [7]. **Figure 5** describes the main steps in this model.

3.2. Conceptual Design

Figure 6 shows conceptual design of the application where child interacts through

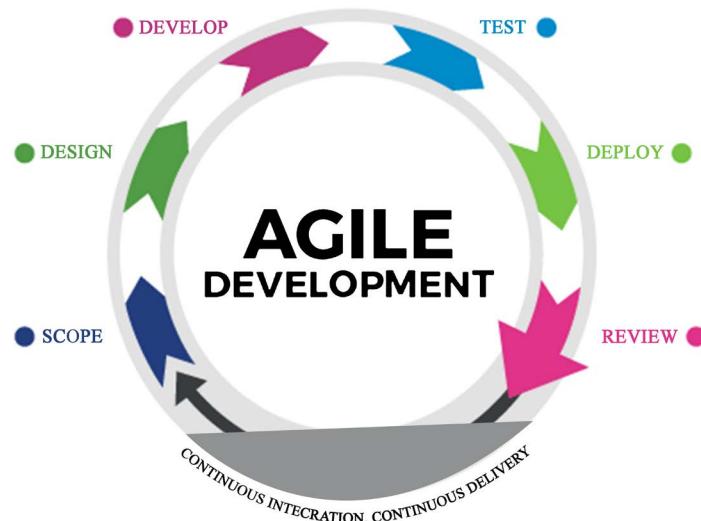


Figure 5. Agile model [8].

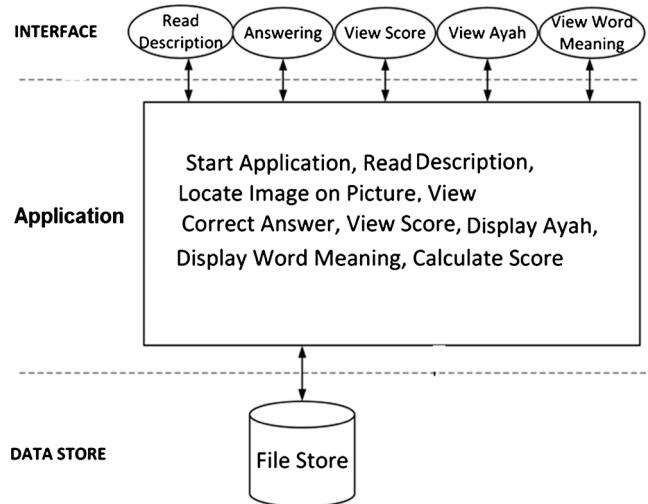


Figure 6. Conceptual design.

the interface with the application and can do some tasks as reading description and locating object image on background image. Score is calculated through the application based on the child's answer if it's right or wrong.

3.3. System Components

Figure 7 shows the system components of the android application that mainly has 3 parts presentation layer which is the interfaces the user use to interact with the application to request a service, business layer that is concerned with the logic of the application code the database layer which is the data store that holds the object images.

3.4. Architecture Design

The system architecture gives an outline and a plan for the overall system architecture, and the frameworks can be created, which can cooperate to actualize the

general framework. It means that it will provide all components that we need it to develop the application [8] [9].

Below in **Figure 8** is the system architecture of our auction application is presented. Where we have children as main users of the application. Child sends and receives information from the application by clicking on the right Object Image that corresponds to the word chosen. Child can view ayah meaning and voice through the application.

3.5. Interface Design

Figure 9 shows the main interface of the application, where the background picture holds more object images. There are 8 image objects related to the 8 words

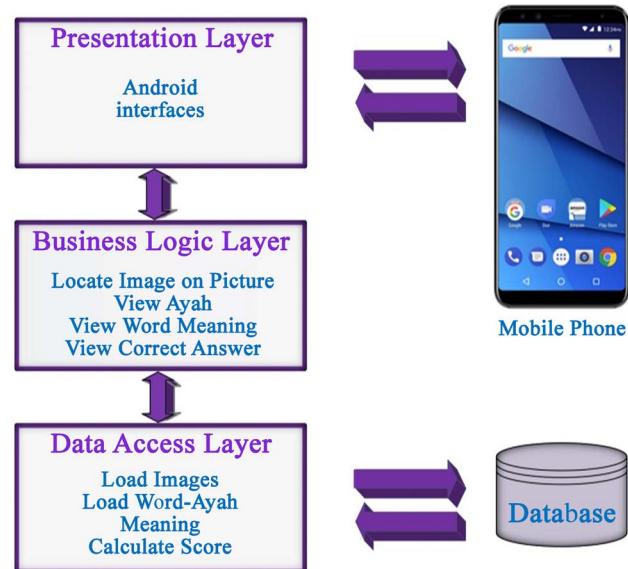


Figure 7. System component.



Figure 8. Architecture design.

found below the background image. Users have three helps that can be used throughout the game. Score will be shown on the left top of the screen as shown in **Figure 9**. When users click on the word and choose the right object image the application will show that he was right and score is increased. Then the ayah will be displayed with an option to listen to the ayah. Following this, the word will be deleted from list of words and the object image too will be deleted from the background image.

4. Experimental Evaluation

4.1. Experiential Results

4.1.1. Capabilities of Application

In the following tables we will check capabilities of children and parents when using the application as shown in **Appendix A**.

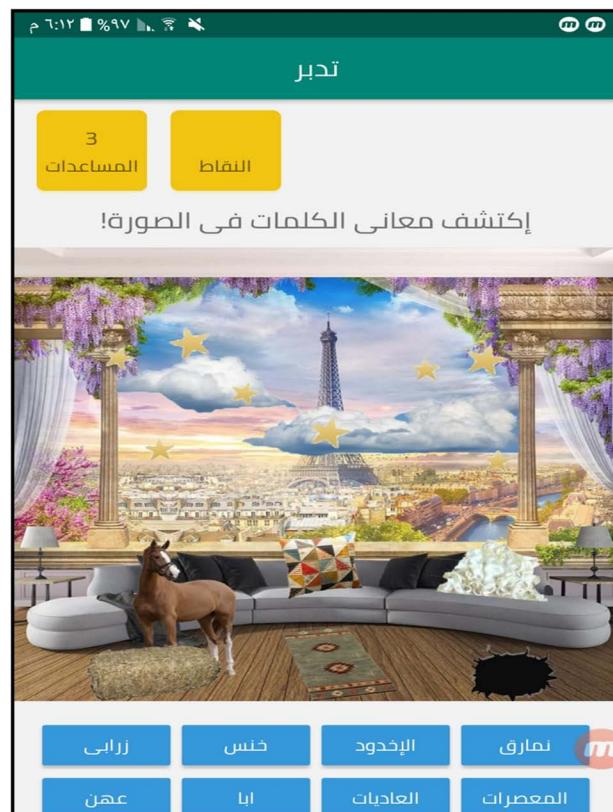


Figure 9. Main interface.

Table 1. Descriptive statistics TADABAR APP capabilities (kids).

Questions	Mean
Length of delay between operations is acceptable.	4.3
The error messages prompt out on the screen is helpful.	4.9
The number of steps per task is not too many or just right.	4.6
Dimension mean	4.6

As shown in **Table 1** and **Table 2**, the Mean for house request management system capabilities dimension is 4.6 for kids and 4.3 for parents, indicating that both respondents satisfied and agree on the capabilities of system after the respondents use the system functions.

4.1.2. Perceived Usefulness

The following tables check the usefulness of the application for children and parent's as shown in **Table 3 & Table 4**.

As shown in **Table 3 & Table 4**, the Mean for perceived usefulness dimension is 4.62 for kids and 4.48 for parents, indicating that the kids and parents agree on the system use and the system enable to accomplish the process more quickly.

4.1.3. Ease of Use

The following tables check how it is very easy to use the application for children's and parent's as shown in **Table 5 & Table 6**.

As shown in **Table 5 & Table 6**, the Mean for perceived ease use dimension is 5.13 for kids and 4.53 for parents, refer to that the kids and parents find the system

Table 2. Descriptive statistics TADABAR APP capabilities (parents).

Questions	Mean
Length of delay between operations is acceptable.	4.4
The error messages prompt out on the screen is helpful.	4.9
The number of steps per task is not too many or just right.	3.6
Dimension mean	4.3

Table 3. Descriptive statistics for perceived usefulness (kids).

Questions	Mean
Children will learn Qurans word more quickly after using the App	5
Using the system would improve kids memorizing Quran performance	4.6
Using the Application would make it easier to know different and difficult words in Quran	4.5
I would find the Application useful in educational processes	4.4
Dimension mean	4.62

Table 4. Descriptive statistics for perceived usefulness (parents).

Questions	Mean
Kids will learn Qurans word more quickly after using the App	5
Using the system would improve kids memorizing Quran performance	4.5
Using the Application would make it easier to know different and difficult words in Quran	4.2
I would find the Application useful in educational processes	4.2
Dimension mean	4.48

easy to use and the operations in the system user-friendly and uncomplicated.

4.1.4. Nielsen's Attributes of Usability

Our method contains three main categories, namely, Efficiency, Accuracy and Satisfaction, for assessing the quality of application for kids and parents. Rating the application according to these categories will provide better application evaluation compared with the user ratings in the application store as shown in **Table 7 & Table 8**. The subjective quality of each category contains a number of items as shown in **Table 7 & Table 8**.

As shown in **Table 7 & Table 8**, the Mean for Attributes of Usability dimension is 4.5 for kids and 4.2 for parents, indicating that both users kids and parents satisfied with the usability of the system, and the users felt that the game effectively and efficiently to execute TADABAR APP process.

Table 5. Descriptive statistics for perceived ease Use (kids).

Questions	Mean
Learning to play the game would be easy for me	5.1
My interaction with the game would be clear and understandable	5.1
I would find the TADABAR APP easy to use.	5.2
Dimension mean	5.13

Table 6. Descriptive statistics for perceived ease use (parents).

Questions	Mean
Learning to play the game would be easy for me	4.5
My interaction with the game would be clear and understandable	4.8
I would find the TADABAR APP easy to use.	4.3
Dimension mean	4.53

Table 7. Descriptive statistics for attributes of usability (kids).

Questions	Mean
Efficiency	4.3
Accuracy	4.7
Satisfaction	4.5
Dimension mean	4.5

Table 8. Descriptive statistics for attributes of usability (parents).

Questions	Mean
Efficiency	3.9
Accuracy	4.2
Satisfaction	4.5
Dimension mean	4.2

4.2. New Approach Average Scores

We averaged the scores of the collected application surveys according to our categories. Each item uses a three-point scale, a score for each category is calculated as the mean of all belonging items, and the overall score is calculated as an average across the categories. The overall satisfaction measures are 4.32, as shown in **Table 9**.

From **Table 9**, the results show that the average score of 4.72 out of 5, indicating that the users are feeling enjoyable while using the application features and the system is easy to use. Finally, the systems would assist in achieving the highest degree of helping our children learn and become familiar with the Holy Book of Quran.

4.3. Comparison between Our Work and Relevant Work

Table 10 shows the comparison with the new approach and other traditional one. From **Table 10**, it is clear that our approach using all features as innovative, giving hints, Arabic language using and Android, however the traditional approaches could use only some of these features.

5. Conclusions

The new approach is to educate and make our children aware, but in a way that makes them happy and suits the cause. This study helps children to relate all those words with real life, reel life and later then will recognize them easily using

Table 9. Descriptive statistics for all dimensions.

Dimension	N	Mean
TADABAR APP game Screen	10	3.92
Terminology Used in TADABAR APP management	10	4.47
TADABAR APP Capabilities	10	4.3
Perceived Usefulness	10	4.48
Perceived ease of use	10	4.53
Attributes of usability	10	4.2
Over all Average		4.32

Table 10. Comparison between learning Quran append related works [10] [11].

Application Game/Aspect	Innovative Application	Giving Hints	Arabic Language	Android Application
Kids Quran App(Our App)	Yes	Yes	Yes	Yes
Doli Alphabet game	No	No	No	Yes
Mystery Crime	No	No	No	No
Criminal Case	No	No	No	Yes
Castle: Never Judge a Book by Its Cover	No	No	No	No

Hidden Quran Meaning (Tadabar) application. Future work should be built regularly on various concepts like this so that children can easily learn Quran. Apps based on games, coins and points that attract children through their interface, but the soul function for all those apps is to make children learn what Holy Quran is. Once they start recognizing and using such Apps, they will read Quran as well and become familiar with all the words. So, even government should support people who are taking such initiatives and with more added features in Apps like this we can see a mark improvement.

Furthermore, future work could focus on putting guidelines in this documentation to have Arabic, beneficial, entertainment android application. Furthermore, we have to say that this documentation include only the basics and the implementation level could inspire us to add more details which encourage the children and give them more self-confidence.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

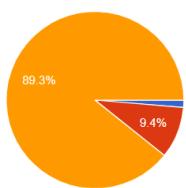
References

- [1] (2016) Hidden Object Game. https://hogs.fandom.com/wiki/Hidden_Object_Game
- [2] Playdom. <http://www.playdom.com/>
- [3] Kaur, P. and Sharma, S. (2014) Google Android a Mobile Platform: A Review: Conference: 2014 Recent Advances in Engineering and Computational Sciences (RAECS). <https://doi.org/10.1109/RAECS.2014.6799598>
- [4] Facebook for Developers. <https://developers.facebook.com/success-stories/v2/criminal-case/>
- [5] iwin. <https://www.iwin.com/games/castle-never-judge-a-book-by-its-cover>
- [6] OLO Games. https://www.ologames.com/Free_Games/Doli-Alphabet
- [7] Seo, L. LINCHPINSEO. <https://linchpinseo.com/the-agile-method/>
- [8] ctm. https://www.travelctm.com/resources/insights_blog/how-agile-technology-development-is-transforming-business-travel/
- [9] Geeks for Geeks. <https://www.geeksforgeeks.org/unified-modeling-language-uml-sequence-diagrams/>
- [10] Lucid Chart. <https://www.lucidchart.com/pages/er-diagrams>
- [11] Clements, P.C. (1996) A Survey of Architecture Description Languages. *Proceedings of the 8th International Workshop on Software Specification and Design. IEEE*.

Appendix A

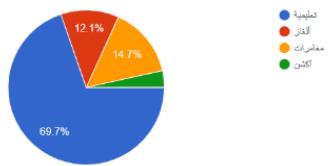
1-ما يصر الطفل المناسب للعب الانكر ونهاية؟

رداً 456



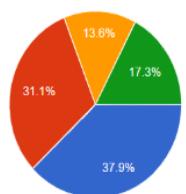
2-ما نوع الاعاب التي تفضلها ملوكك او يفضلها ملوك؟

رداً 456



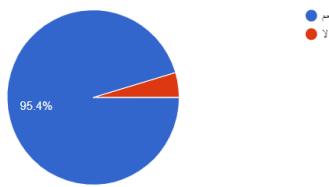
3-كم ساهم في اليوم يستخدم الطفل الاعاب؟

رداً 456



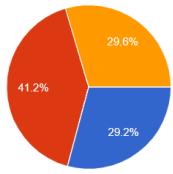
4-هل يحب الطفل الاعاب المتردكة؟

رداً 456



6-هل أصبح طفلك بعد اللعب بالألعاب الانكر ونهاية؟

رداً 456



7-هل يفضل طفلك اللعب مع:

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