Utilizing the AR and Mobile Apps to Show the Rhetorical Miracle of the Fetal Growth Stages According Quran

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Abstract

The Qur'an-based Fetal/Fetus growth using Augmented Reality (AR) was produced for teenagers, adults and mothers to learn the Quran-based Fetal development and learn more efficiently in school. Current learning strategies are changed by AR developments and the use of mobile phones. This app might have the option to help individuals learn about the evolution of the Quran-based Fetal that is increasingly intuitive and enjoyable. Likewise, this app will use 3-D smart elements, a sound, and display information with the goal of individuals making sure to use this app. ADDIE technology is separated into five main areas, namely the beginning of the examination stages, planning stages, improvement stages, implementation stages and evaluation stages. Using the ADDIE strategy ensures that the progress of the tire works easily and in order. This application supported by the different three languages which are Arabic, English and Malay language.

Keywords: Mobile Apps, Augmented Reality (AR), Holy Quran, Fetal, Fetus Growth.

I. INTRODUCTION

By 2025, the number of inhabitants on the planet will be from the subsequent age, or what is known as the "alpha age", around two billion, which means the alpha age, is the age that was conceived somewhere in the range of 2010 and 2025, and the age that has grown up among the innovation since its youth. With iPhone, iPad and savvy applications.

Some of them live in shrewd homes and converse with a keen voice right hand each morning before going to class, they don't know existence without the web or computer games, and they can't envision how life would have been without them. As instruction was one of the territories generally influenced by innovation and digitization, today school and college understudies no longer need to learn by

understanding books and duplicating writings, but instead they use innovation benefits to use in the study hall [1].

As per Jenny Kotzi, an expert instructor and establishing individual from the lofty Crawford School in Lucia of ADvTECH, "These kids are the most associated, taught and created age ever, so when instructing, the school ought to give a situation that upgrades their training." However, some instructive organizations and educators may think that it's hard to meet the prerequisites of alpha age kids in the event that they disregard to refresh themselves, their procedure and educational programs so as to embrace another way to deal with training.

AR is a type of intuitive, reality-based display case that takes into account computer-producing capabilities, sound, content, and effects to improve an approved customer experience. The augmented reality merges original computer-based scenes and photos to transfer a connected perspective while improving the world. Extended Reality has a wide range of usage and application models, but its primary goal is to give a rich diverse media experience. Augmented reality works by leveraging reorganization and automatic actions [2], for example, image and speech recognition, movement, Header - Handheld and Compound Tools and Charged Display Cases to include virtual display above real photos and environmental factors.

The development of a fetus based on the Qur'an is a mobile application that encourages the client to know the stages of the development of the Qur'an-dependent fetus and information on the stages of fetus development that depend on the Qur'an. This application will display the client and give data about the development of the Qur'an-based fetus by implementing the current innovation which is AR [3]. This application will guide customers to think about the stages and information of the fetus development based on the Quran.

Individuals these days are surplus and open to innovation, so they may not be so fascinated with seeing the neighbouring books because they will feel overwhelmed with them given the fact that there is no intuitive component. What's more, some of them have no experience in the relationship between science and the substance of the Noble Qur'an. Also, let them realize that the manner in which the blessed Qur'an referred to these procedures is arranged before the emergence of sciences.

Customer can take advantage of this smart app using only mobile phones and cheat papers. At this point, the smart cheat sheet is clearly manufactured for the Android stage. This intuitive cheat sheet is only cultivated to discover the development of a Qur'an-based fetus using AR and to give (4) models as stages of fetal development. Provide information about the development of the fetus and its relationship to the Qur'an, for example:

"We (God) made man from a clay core. At that time, we put it as food in a stable, stable position, at that point we made the drop in a siphon-like structure, and then we changed the agate into a mastication (like a substance), at that point we made from That embryo, bone (skeleton, bones), at which point we placed the bone in the bone (muscles and tissues) at that stage made it evolve and come into existence and achieve the final (human) shape. In this way, God be the best of powers."

II. AUGMENTED REALITY AND HOW IT WORKS

Multiplied the fact is every other wording that has as of overdue evolved, and by using goodness of the transparency of education to innovation and its pioneers and students seeking to make the most the maximum latest innovation in spurring students and making the learning procedure gradually captivating, interesting and energizing, the enlarged reality innovation has determined its direction successfully to the sphere of schooling, to make contributions accordingly to rethinking gaining knowledge of, and making it crucial and good sized.

a) Definition of expanded fact: expanded the fact is a sort of augmented truth that plans to duplicate the genuine condition within the computer and upgrade it with digital data that had been no longer a part of it. at the quilt of the day, the extended reality framework produces a composite presentation for the customer that blends the genuine scene that the purchaser is taking a gander at and the virtual scene made by way of the laptop that improves the genuine scene with more records [4]. Pc created digital scene method to enhance the impression of this present reality that the customer sees or collaborates with. enlarged truth means to make a framework in which the difference among this gift reality and what is added to it isn't understood using the innovation of accelerated truth. on the factor when a person makes use of this innovation to take a gander on the earth round him, the articles in this condition are provided with data that swims round them and coordinates with the photo this is visible to the individual.

These days, AR innovation is utilized in enjoyment, military getting ready, building plan, mechanical generation, generating and different agencies, and is continuously being fused into training.

b) Records of augmented reality: it's miles generic that the first to coin the term extended the truth is the preceding scientist at Boeing Thomas Caudell and that became in 1990, but this term become utilized a totally long time before Thomas, wherein the primary utilizations of enlarged truth return to the past due 1960's and 1970's. in 1962 Morton heilig, the cinematographer, deliberate a motorcycle take a look at device with sound or video, named Sensorama. in 1966, Ivan Sutherland built up the main 3D protective cap moulded projector. in 1975, Myron Krueger concocted the video place, which allows customers to hook up with virtual items.

Preceding 1990, improved reality innovation became utilized best through many sizable re-enactment and preparing agencies, and for exceptional functions. However, this circumstance will alternate step by step as a consequence of the development of far flung innovation, the lower within the size of specialized devices, and the adjustment of records packages that enlarged reality wishes to check this innovation in pcs and cellular phones.

Transportable applications for enlarged fact commenced to show up in 2008, and the sector of maps and social correspondence changed into the first to income via this innovation, and its usage for getting ready in medicinal drug and the navy discipline is further advanced, at the same time as the use of increased fact innovation in schooling is still in its early levels.

c) The manner of increasing fact innovation within the work: accelerated fact innovation relies upon at the framework's acknowledgment of interfacing certifiable highlights with an appropriate virtual issue that is pre-positioned away in its memory, as an example, geological directions, place statistics, a fundamental video, or something different statistics that underpins genuine fact. enlarged truth programming relies upon on using a cell smartphone camera or tablet to look the real truth, at that point breaking down it as indicated by what is required from this system and trying to incorporate digital additives with it [5].

We deliver up that there are distinctive methods to paintings ar. while the primary technique makes use of the usage of markers that the digital camera can seize and understand to reveal the data diagnosed with it, the subsequent strategy utilizes land region by means of GPS management or picture recognition projects to expose the facts.

III. LITERATURE REVIEW AND BEST AUGMENTED REALITY APPS

Several technologies have recently been developed to develop real and virtual experiences, such as Augmented Reality and Virtual Reality. Indeed; The applications of augmented reality and its many technologies spread, and they are used extensively in many fields to achieve the maximum benefit from them.

The concept of Augmented Reality is defined as an imaging technique through which the real environment is projected into a virtual environment, i.e. the basis is a real object that can be photographed, and then the computer repeats and reinforces it by adding a virtual touch to the image through symbols, signals and texts through which the experience is improved Realism, and enable the viewer to fully understand the displayed image.

This technology provides many services, mostly in the field of games, but its use is not limited to that. As it is employed in important fields that facilitate basic services such as education and many fields through its various applications, which will review the most important of them through the following [6].

- Augmented reality applications in the military field: This technology offers many applications in the military field for the land, air and sea forces; Heads-Up Display is the best example of this, which pilots can use because it is practical; The pilot does not need to make any movement or turn his head, and this is very important, as he thus explores all the main information without being distracted. The information before the pilot includes its height, speed, horizon line and the angles of its deviation from it, and information about foreign objects can also be displayed. Its speed and other important data. This technique can also be used by infantry soldiers through the Head-mounted display technology, symbolized by the abbreviation HMD, through helmets worn by soldiers who can view their coordinates through them, knowing the enemy positions and distinguishing them.
- Cameras can be installed in helmets, and soldiers can explore the surroundings around them without injuring them, as is the case with pilots; It is important that the soldier be fully focused in observing those around him, and stopping for one moment to know his coordinates may put him at risk, and here lies the importance of augmented reality that displays all the important information in front of him. Military engineering centers in the United States have developed virtual reality technologies and devices that aim to increase the realism of training, and put the soldier in a situation similar to his position on the battlefield in terms of psychological and physical stress, which increases the effectiveness of the exercises; Physical exercises and firing training in the training grounds are not good enough, and these techniques are still under development.
- b) Augmented reality applications in medicine: Augmented reality applications cover most stages of medical work from diagnosis to treatment, and the best of these are:
- Diagnostic applications: Diagnosing the disease is the most important step in managing it, but there are many difficulties in the diagnosis process, most notably the weakness of the patient's medical culture, and his inability to accurately describe symptoms, and here comes the role of augmented reality through applications such as Eye Decide that help the patient to know his condition He described the symptoms accurately without exaggeration.
- Nursing applications: the most prominent of which is the application of locating the vein in the hand, a problem that the nursing staff particularly objects to in young patients and the elderly, but by using this application they can simply shine the rays of the device on the hand and it will show them the location of the vein.
- Applications of augmented reality in surgery: The most important applications of augmented reality
 in the medical field, help the doctor in complex surgical operations, which reduces the percentage of
 error, especially in the operations that are performed on the nervous system. Radiographs and MRI
 images can also be combined so that the doctor can approach them during the operation, which the
 doctor cannot do in the normal state.
- Augmented reality applications in radiography: Radiography procedures often place a burden on the doctor and patient. It needs expensive equipment, which forces the doctor to send the patient to the imaging laboratories to confirm the diagnosis, and this is difficult in emergency cases and in field medicine, but it is necessary. Thus, the introduction of augmented reality in this field is a qualitative shift in medicine; The doctor can purchase small devices that direct them to the area that he wants to photograph to be imaged and know the state of the bones without the need to move the patient to any place or use the expensive and large equipment.
- Diabetes and blood pressure: This is for patients who suffer from chronic disorders that have no treatment except by taking medication doses for life, and sometimes disorders occur in blood sugar or blood pressure that may be not noticeable, so relying on augmented reality helped invent devices that are placed on the fingers The hand, including for measuring blood pressure, and for measuring

sugar. Thus, the patient gets an accurate measurement and saves time on the one hand, and works on immediate treatment of this disorder in order to avoid its aggravation on the other hand.

Applications of augmented reality in the medical journal, despite their usefulness and importance, but they have their drawbacks. Such as high costs and bugs that could lead to catastrophic medical errors [7].

- c) Augmented Reality applications in navigation: It can be said that it is the most used and serving application of daily life. It facilitates navigation and you will only need a mobile phone, with the GPS system activated on it, and then you can view your coordinates and the route you take through the camera of your phone. The most prominent of these applications: Compass 360: Helps you find ways to find your way. Where to: This app can be a comprehensive tourist guide that shows you the best places to visit and how to go. Localscope for iPhone: one of the most powerful and best augmented reality apps available for Apple devices; Through it you can infer the most important places in the region in which they are located and the most popular. Heads Up Navigator: This application provides a 3D view of the area in which it is located, and the benefit of it is to direct you to the places you want to go and shorten a lot of time in research.
- d) Augmented reality applications in education: Most students own smart devices. Therefore, many applications have been developed that can assist students and teachers in the educational process. There are many applications, including what is used while giving lessons in the classroom, which add vital to the educational process, and helps clarify and explain information in a way that helps the student to understand and memorize them, and there are applications to study at home.

The best applications of augmented reality in education are: Anatomy 4D: This app is excellent for medical school students and everyone who wants to study anatomy; Where you can view all the members of the human body in a three-dimensional way and study them anatomically in detail, as you can study the devices each device separately (respiratory system, digestion, excretion, rotation, etc.) Therefore, the study of anatomy in such an application is easier compared to its study than the anatomy references such as Sobota. This app is available for Android and iOS devices, and for users of Windows devices, it can be replaced by Corinth Micro Anatomy or Human Heart 3D application, and although these applications are not comparable to the original application, they are good enough. Aug That: This app is designed to help students who are of little interest and motivate them to study; It displays three-dimensional images, and enables students to interactively learn, so that some ideas can be approximated and study time shortened at home. Math Alive: This application is intended for children, can be linked to a camera or a computer, and helps children learn to count by displaying cards placed in front of them that are photographed using the camera to teach the rules of the account. Similar to the Animal Alphabet AR Flashcard, which is used to teach children the alphabet, and Zookazam and Bugs 3, which are used to teach children the names and shapes of animals.

Google Translate: It can be considered the best app when dealing with banners or any word written in an unfamiliar language; All you have to do is open the application and put it in the AR mode, and then turn on the camera and photograph the strange word or sentence so that the application approaches it and extract its translation, this application is suitable for tourists a lot and is available for Android devices and iOS.

e) Augmented reality applications in tourism: There are many applications that are used to help tourists do everything they want; Some of it is used to choose the appropriate hotel, through offering hotel rooms and all its services to help in selection. The augmented reality also supports the movement from one place to another without the tourist getting lost. And most of all, applications that browse places; There is a set of applications that provide you with a three-dimensional view of the place you are in and you can explore the smallest details using your mobile phone, and know the main information in it. In museums, for example, you can know information about any artifact or painting in front of you through just your phone.

f) Augmented reality apps in games: The gaming field is the main field of augmented reality; A wide range of applications have evolved through which to develop the gaming experience by wearing special glasses or helmets, and even through the mobile screen. Often these technologies are expensive, and require powerful computers, but the gaming experience is of course special. One of the most popular AR games is the Pokemon Go, which is available for smartphones and displays legendary and exotic beings in the natural environment. Other popular AR games also include: Ingress, Spec Trek, Temple Treasure Hunt, Ghost Snap AR and Zombies.

Although augmented reality technology is fairly recent, it has proliferated and imposed itself in the world of technology and technology, and all expectations indicate that its future development will be significant and will not stop at a limit.

IV. METHODOLOGY

The ADDIE model is imperative to comprehend if the designer wishes to accumulate a powerful mission. the ADDIE version accommodates of 5 levels: research, plan, improvement, execution and assessment. ADDIE is a compelling device in developing making ready that tends to training. most representatives have a number of facts to examine that allows you to be an increasing number of efficient in their employments. in this way, the ADDIE model should be treasured to sever an in arranging the path of work which can activate fruitful undertaking execution. whilst dealing with ventures that include recommendations or steps, the technique is very fitting, as a way to guarantee possible taking in consequences from AR development, careful arranging is needed before beginning the development manner. ADDIE makes use of the instructive structure model inside the versatile AR utility improvement approach [8], the ADDIE studying framework configuration model (ISD) is a middle version that may be implemented to a getting to know arrangement, the ADDIE model carries five levels: examination, structure, advancement, usage and evaluation, see figure 1.



Figure 1: ADDIE Version

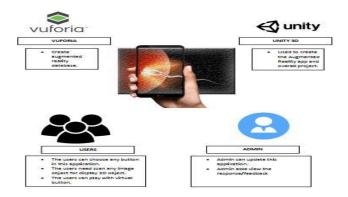


Figure 2: System Plan

Figure 2 above suggests the device structure of picture word reference inside house. patron equipped to pick out any fasten in this software, the customers need study any image item for show three-D item and moreover press button for show language sound, for administrator, administrator prepared to refresh the application for make new plan, administrator moreover capable view the response criticism, the 3dunity used to make the augmented simulation utility and through and large project and demonstrating 3D items, the Vuforia use to make accelerated reality [9], the vuforia identifies and tracks the highlights that are commonly found within the image itself by way of contrasting those everyday highlights against a recognised goal asset database, while the image goal is distinguished, vuforia motor will follow the image as lengthy for what it's really worth at any charge more often than not within the digicam's subject of view.

V. APPLICATION FEATURES

The welcome application interface and the landing page are regarded in the below figure 3, this interface has button begin to visit the menu web page. for the customer. at there may be path, for instance, AR digicam, approximately software, a way to and stopped. AR digicam button for go to AR camera web page. same determine seems approximately capture to visit approximately application page. commands to for giving some statistics approximately how to make use of this utility. the quit seize to depart this application.





Figure 3: Interface and Essential Menu

Figure 4 shows the AR camera page for the consumer to play and end up acquainted with the AR utilized. consumer wishes to get the image on fetal development which is called a marker. subsequent, the patron can check the image utilising AR digital camera and the 3-D models will leap out consequently on the cell smartphone screen. on the factor when clients have a look at, it will recognize the marker and produce the sound of the item which the ayah that relate with the stage.







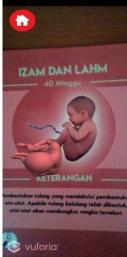


Figure 4: Fetal Development Managing in 3D Articles

Figure 5 indicates the approximately application page for the consumer. at there's look down vertical to the capable patron to appearance down for depiction. client can have returned to the landing web page while press button back.



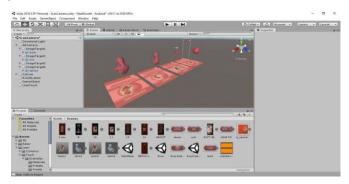
Figure 5: About Page

AR marker or picture goal can be something, as lengthy as it has sufficient one in every of a kind visible focuses. Pix with bunches of issues and edges function admirably. it deliberates with the vibrant factor using adobe Photoshop. the image of the object on the internal, and the call of the article with the aim that customers recognise the levels of fetal improvement efficiently. apart from that, Vuforia engineer is a site that let the designer test if the photograph is the ideal marker and each marker highlights. a component is a sharp, spiked, etched detail within the image, for example, those found in completed items, the picture analyser speaks to highlights as little yellow crosses, increment the amount of those subtleties in the image, and check that the subtleties make a non-rehashing layout. 3D demonstrating is the way towards constructing up a numerical portrayal of any floor of an object (both useless or living) in 3 measurements through particular programming, the object is known as a 3D version, it tends to be shown as at two-dimensional picture via a system known as 3-D rendering or utilized in a computer reenactment of bodily marvels, this task made a 3D version using Autodesk Maya included with the movement and floor as seemed in Figure 6, except, some models additionally download from web page name sketchfab.com, the 3D version was worked with floor and liveliness.



Figure 6: Demonstrating 3D and Key Part Liveliness Method

This module is a software improvement technique of fetal development dependent on Quran utilising AR and it makes use of unity3d programming and it makes use of c # language. Figure 7 under shows Unity 3D programming.



Determine 7: Unity 3D Programming View Content Material Technique

The following putting is a portion of the projects that anticipate a job on this application. amongst of them are default identifiable event handler, AR digital camera, snap sound, statistics target and pivot article that are totally completed in Microsoft visual studio 2017 programming. all the tasks were created to set up the form of hand devices with AR software technique to determine a choice as far as menu replacing, the selection of markers so as to display 3D objects. when you consider that utilizing the Unity 3D software as a level on this development method, the program has to be finished utilizing Microsoft visible studio programming earlier than it is going to be encased inside the work report that has been made.

Proper off the bat, default identifiable occasion handler is interfaced for looking after identifiable nation changes. also, AR digicam content to stack a scene to open a camera to look at an image. at that factor, click sound content is for mange sound catch of utilization. apart from that, records goal is empowering display visual sensible seize and add sound to every fasten. in end, turn article are empowered object to pivot consequently when checking stamped. moreover, the utility serves the pregnant within the next period together with her primary care doctor by using the subsequent book by using examining the book to realize more data approximately the present phase of her fetal, as appeared in Figure 7.1 moreover, the application offers statistics in Malay language reinforced with the aid of Quran refrains and its explanation, see figure 7.2 as case of the fetal improvement ranges with factor with the aid of factor records in Malay language.



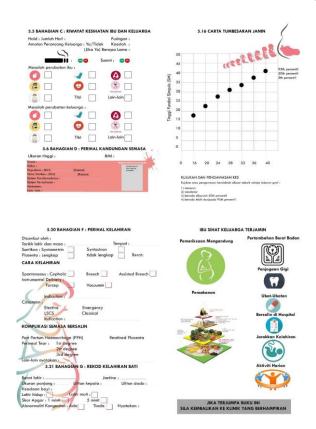


Figure 7.1: Observe-Up Continual E-Book

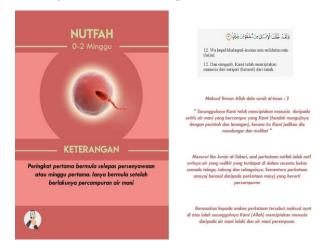




Figure 7.2: Fetal Improvement Levels with Nitty Gritty Information in Arabic, English and Malay Language

Ease of use trying out is a technique to understand how simple to utilize something is via attempting it with proper clients. clients are approached to complete errands, typically even as they are being visible by way of an expert, to see where they enjoy troubles and experience disarray. at the off hazard that

more individuals experience comparative troubles, guidelines can be made to conquer those ease of use problems. along those strains, ease of use testing is an approach used to evaluate how simple utility is to make use of. the checks appear with proper customers to gauge how usable or instinctive an application is and how easy it's miles for clients to reach at their targets, there are five inquiries for the customer, coming up next are the aftereffects of the assessment determined. Figure 8 indicates the line diagram of the poll that gave five reactions from clients.

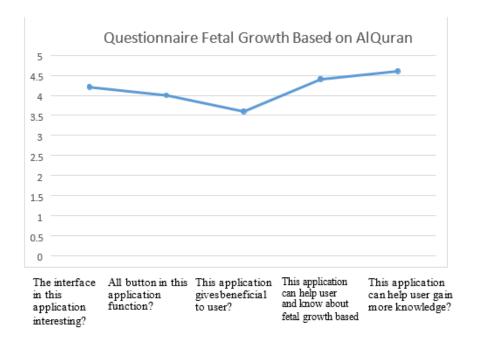


Figure 8: Line Diagram

Query 1 to 5 is on the everyday stage. it tends to be visible the inquiry five has the most tremendous level, which software can assist clients with gaining information. besides, the reactions give first-rate enter approximately the web page yet the maximum decreased degree is set inquiry 3 which this application offers beneficial to the clients. through and big, an away from sample of the brand new broadly utilized advancements that can reflect the adequacy of practise for the intuitive mastering for customers.

VI. CONCLUSION

Fetal improvement dependent on Holy Quran utilising enlarged the reality is a software for gaining knowledge of. by way of making use of this application, client playing round with analysing show sensible three-D version with activity. it has sounds with dialects, for instance, Arabic and Bahasa Malay every one photograph. moreover, it's miles helpful to make use of considering that the client simply slightly must be download at the play shop and might make use of them and not using a web association.

There are multiple troubles and confinements that take place at some stage in the development of this challenge. first of all, this software filtering one image particularly. it cannot make as a minimum checking and it won't be operating. this software must want light supply when checking a picture. it can't paintings in a dim scene given that it is tough to discover. furthermore, the patron needs the most

recent mobile smartphone to play this application. aside from that, the restriction is that this software just available at the android level as it were.

Fetal improvement depending on Quran utilizing expanded truth regardless of the entirety has a ton of factors to be improved. there are a few proposals that can be made with the intention to remodel the utility to be step by step productive afterward. the advice is along with more seize and statistics inside the book, at that factor, this application likewise consists of dialects, for example, mandarin and English, aside from that, this application may be brought in IOS so the consumer can play their mobile phone, preferably this application can be a promote in the market so consumer and mothers to be can get the it without any hassle.

As a cease, fetal development depending on Quran using improved is the software that centres round a suggestion approximately know stages of fetal. each photo includes such large numbers of records. ADDIE model has been applied in this utility to exam, structure, development, execution and assessment of the affordable magnificence or type of cellular phones for customer's each day existence. the storyboard interface plan that remembered for this record can likewise cross approximately most often for a patron.

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