

**ESCHOOL (FOR PRIMARY EDUCATION)**

**BY**

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This Report Presented in Partial Fulfillment of the Requirements for the  
Degree of Bachelor of Science in Computer Science and Engineering

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**APPROVAL**

This Project titled “**eSchool (For Primary Education)**”, submitted by **Md. Touhidul Islam Shawan** to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on **31<sup>th</sup> January 2021**

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## DECLARATION

I hereby declare that this project has been done by me under the supervision of **Warda Ruheen Bristi, Lecturer, Department of CSE** Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for the award of any degree or diploma.

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## ABSTRACT

There are some great online educational platforms out there on the web. They are good with their contents. But these platforms cannot solve the goal of this Fun eSchool project. Fun eSchool is an online learning platform that wants to make Primary Education students familiar with computers and the web and Augmented Reality in Bangladesh. There are so many primary schools in our country. Maximum students in those schools are not familiar

with computers so, Fun eSchool is trying to make them familiar with computers by giving them an online platform. This platform's contents will be related to their study books. Augmented Reality will help students to visualize objects. Although there are some great platforms, they have some disadvantages. Like these platforms are based on outside country's curriculum. They charge an amount monthly. So these platforms cannot be useful for our Primary Education. But Fun eSchool is free and easy to access. It's mainly developed by focusing on its goal.

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# CHAPTER 01

## Introduction

### 1.1 Introduction

The changes of the world are rapid with technology. To cope up with the world, we have to prepare our next generation of the country. In Bangladesh, primary students are lagging in technology. Maximum primary school students do not familiar with computers. **Fun eSchool** is an online learning platform that wants to make Primary Education students familiar with computers. Fun eSchool's contents will be related to their study books. Students will be able to learn and will be familiar with computers by interacting with this platform.

### 1.2 Motivation

Fun-eSchool is an online platform for kids to learn their lessons more attractively. This platform will help kids to be familiar with the computer. Our government is trying to create a digital Bangladesh. Our country is moving forward in the Information and Communication Technology (ICT) sector. Recently our government has given digital equipment like laptops, Projector almost in every primary school, which is a small step to introduce the students to the digital world. So why not a digital platform for them to help with their studies to learn their lessons. From this, the fun-eSchool idea has come.

### **1.3 Objectives**

The objectives of Fun eSchool are written below:

- Make students familiar with computers and web
- Introduce students with augmented reality
- Learn with the visual representation
- Make easy to understand their lesson

### **1.4 Expected Outcome**

From this Fun eSchool platform, students will be familiar with computers. The visual representation will help to have a clear concept about their studies. Students will take this platform as an interesting way to learn then they will be more attentive to their studies.

The primary outcome that students will be able to interact with computers.

This web application has the following features:

- Visual representation of lessons according to their study books
- Games to justify their learnings.

### **1.5 Necessity**

Fun eSchool is an online platform that has a goal to make the students familiar with the computer. This platform is for the students of primary schools in Bangladesh. But why we need an online educational platform like Fun eSchool for the students of primary school.

Many primary schools in Bangladesh do not have any digital pieces of equipment. Students do not have any idea of the computer though they live in this modern era.

But recently, our government takes a huge step to digitalize our country. The government is providing all facilities to make education better, digitalized. The government recently

give laptops to all primary schools. So, an online platform like eSchool is useful in this current situation. By interacting with the students will be familiar with the computer. That's the root goal of the Fun eSchool.

Fun eSchool provides content according to the curriculum of primary school's textbook. It will help the students to visualize their studies.

Also, this platform will introduce some Augmented Reality- AR to the students. This Augmented Reality will be useful for students. They can see more realistic study material because of 3D representation. Suppose class 1 student learn letters and then learn words that make with the letters. Like, A for Apple, B for Ball, etc.

This Augmented Reality will be useful for students. They can see more realistic study material because of 3D representation. Suppose class 1 student learn letters and then learn words that make with the letters. Like, a makes word Apple, B makes word Ball, C makes word Cat, etc. Now when a student learns word Apple they have to imagine what an apple looks like. By using augmented reality, we can show a 3D apple that will look like a real apple. This way students will be able to learn with fun. Also, it will be helpful for their memories of the word.

There are some games developed on this platform similar to their studies. A teacher can choose a student to play the games. Then the student can interact with the computer and this platform. This way a teacher can create a competitive environment among the students. This way students can be familiar with the computer and they will create a competitive mindset.

For all of this reason, we need an online pedagogical platform like Fun eSchool. Also, the pandemic situation of COVID19 has shown how much is this important having an online pedagogical platform.

## **1.6 Layout of the Report**

The Report of Fun eSchool is distributed into 5 chapters. Each chapter will discuss the different aspects of the “Fun eSchool”. Every section has different parts clarifying all the segments in detail.

### **Chapter 1: Introduction**

This section discusses the basic speculative thoughts driving our endeavor. Here similarly inspect our endeavor motivation, targets, and foreseen results.

### **Chapter 2: Augmented Reality**

This section discusses about the AR (Augmented Reality). From this section we know about augmented reality, how it is beneficial for the education, how it is changing the technology in various field.

### **Chapter 3: Background**

This section talks about related platforms and what problem those platforms are solving. Also, talks about their disadvantages. And how my project is solving those issues.

### **Chapter 4: Requirements Description**

This section talks about requirements to develop Fun eSchool web application. This section includes the diagram of each component that is used to develop Fun eSchool.

### **Chapter 5: Design Description**

This section talks about Front-End, Back-End design for the application.

### **Chapter 6: Implementation**

This section talks about implementation and testing the application.

### **Chapter 7: Closure and Prospect Scope**

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This part discusses the end and Prospect degree of my project.

## **Chapter 02**

### **Augmented Reality**

#### **2.1 What is Augmented Reality**

Augmented reality (AR) is one of the best advancement floats as of now, and it's just going to get ready more prominent as AR cell phones and various contraptions become more accessible around the globe. AR let us see the certifiable atmosphere straightforwardly before us—trees affecting in the recreation center, canines seeking after balls, kids playing soccer—with a mechanized development overlaid on it. For example, a pterodactyl might be seen showing up in the trees, the canines could be mixing with their animation partners, and the kids could be seen kicking past an untouchable rocket on their way to deal with the score a goal.

With impels in AR development, these models are not that not exactly equivalent to what might successfully be available for your cell phone. Augmented the truth is, in fact, expeditiously open and being used in a stack of ways including as Snapchat central focuses, in applications that assist you with finding your vehicle in a stuffed leaving bundle, and on assortment of shopping applications that let you try pieces of clothing without wandering out from home.

Perhaps the most acclaimed representation of AR development is the convenient application Pokémon Go, which was conveyed in 2016 and promptly transformed into an inevitable sensation. In the game, players find and catch Pokémon characters that spring upon your walkway, in a wellspring.

Games aside, there is a similar number of vocations for AR in our standard day by day presences as there are Pikachu unhindered in Pokémon GO. Here are two or three models:

- Upgraded course structures use Augmented reality to superimpose a course over the live viewpoint making the rounds.
- During football coordinate ups, broadcasters use AR to draw lines on the field to speak to and stall plays.
- Furniture and housewares beast IKEA offers an AR application (called IKEA Place) that permits you to see how a family thing will look and fit in your space.
- Military pilots see an AR projection of their tallness, speed, and other data on their cap visor, which suggests they don't need to waste focus by peering down to see them.
- Neurosurgeons to a great extent use an AR projection of a 3-D brain to help them in operations.
- At chronicled districts like Pompeii in Italy, AR can broaden viewpoints on out of date municipal foundations over the current remaining parts, restoring the past.
- Ground bunch at Singapore's air terminal wear AR glasses to see information about freight compartments, quickening stacking times

## **2.2 How AR Varies**

Regardless of whether we're into innovation or against it, augmented reality is a unique one to consider. While we have all heard about computer-generated simulation and its advantages, we might not have seen as much with augmented reality. What's more, genuinely, we need augmented reality similarly so much if not more than computergenerated reality! Likewise, here's the explanation it's not exactly equivalent to PC created reality.

With AR or VR for short, we have an encased area that is restricted by how many cameras there are or range. It makes a world to drench us in and that is extraordinary however not similarly. Augmented reality, or AR for short is something that works in our current world. This effect is pretty critical!



## **2.3 Why AR Matters**

Unlike VR, AR licenses our versatility. The device doesn't have to convey a striking world to connect with, because it uses our own. It takes the data of our present natural factors and handles the troubles we have.

The clarification we need to expand the truth is on the grounds that the world is consistently advancing. We need something versatile that offers responses to conventional issues that are getting interminably flighty.

In light of everything, there are a couple of adventures that can benefit or are as of now using development!

## **2.4 Industries That Currently Benefit with Augmented Reality**

Shockingly, there are now a few organizations and callings that profit from AR. Some are earlier being developed than others however it merits investigating them still!

A few organizations are pushing development to the following level with their AR arrangements. Atheerair is an organization that is making customized arrangements reliant on the necessities of their customers. Here is a portion of the businesses they give AR answers for

- Automotive
- Aviation
- Insurance
- Manufacturing
- Mining
- Warehousing

This organization alone makes answers for those enterprises and some more! Be that as it may, they aren't the solitary ones out there endeavoring to make working arrangements. Organizations like subversive, Red Realities, and AMPLEXOR are largely dealing with their ventures too.

These are the organizations and innovations that help to make a prospect around AR. We need augmented reality more than we know and the help of it is evidence! Presently how about we investigate how the normal buyer could profit.

## **2.5 AR on Education**

Education is one of the enterprises that are effectively being upset by innovation and digitalization.

Today, school and college understudies at this point don't have any desire to learn simply by understanding books and replicating writings. No, they need the intensity of innovation in their homerooms.

Then again, carrying innovation to schools and colleges raises the nature of Education an excess of more significant levels. New learning designs lead to more noteworthy understudy commitment, which, thusly, makes the information, and aptitudes remain longer.

Subsequently, accepting mechanical responses for teaching method is getting continuously well known. The Instructional method can be genuinely versatile when it concerns the procedures for growing understudy responsibility and premium in learning.

Online courses, chatbots, gamification, and, clearly, virtual and Augmented reality – today you can find all of them in the pedagogical plans of both elementary schools and universities. Notwithstanding how old we will be; we for the most part love to be shocked.

### **2.5.1 AR in a nutshell**

From its name, we can assume that the development "extends" this current reality around us. It does it by overlaying virtual things over the authentic picture, routinely on the cell phone screen.

Some elevated level enlarged reality applications require remarkable AR glasses, for instance, Microsoft HoloLens.

Ordinarily, AR objects are made either by setting up various photos of a real article or by 3D-showing. To put virtual things on the screen, Augmented reality applications use either extraordinary markers, for instance, QR codes, geolocation data, or the article affirmation feature.

In Augmented reality applications, customers can either watch the virtual things or help out them zoom, rotate, move if the possibility of the application requires it.

When contrasted with enlarged reality, most AR applications run on cell phones or tablets requiring no phenomenal stuff. This makes expanded reality development especially adaptable for use in the instructional method business.

Various teaching method applications fuse printable markers that instructors can use in the examination lobby. Exactly when the kids point their cell phone cameras at the markers, something intriguing leaps out!

### **2.5.2Uses of AR in School and Universities**

Today, we can barely even notice a schoolkid with no cell phone. With school understudies, the amounts of compact contraption customers are essentially higher, as youths use cell phones for almost anything.

Various schools are endeavoring to blacklist cell phones for the interference they make. Such blacklists are for the most part useless, as an over-the-top current child's life is related to a cell phone.

As it routinely happens, the "in case you can't win it – oblige it" strategy works for the present circumstance, too.

As opposed to endeavoring to part understudies from their phones, teachers can use the devices in their activities. By mentioning that the understudies download an Augmented reality application that can improve the learning cycle, the educator gets an additional contraption for boosting the understudies' income in the activity.

A comparative procedure works commendably in universities, and, potentially, fundamentally more, as school understudies are generally higher motivated to learn than schoolchildren.

Making the educational substance more lavish and all the more enthralling by introducing hi-end advancement as AR can finally help with planning better specialists.

### **2.5.3 Virtual Object instead of Physical Object**

Gigantic quantities of us no doubt remember dreary plastic skeletons staying toward the edge of a science study corridor. School's universities use real models during works out; in any case, AR raises this learning strategy to another level.

With this technology, educators can repeat three-dimensional models of basically any article, even the thing is hard to bring to a class. Likewise, in expanded reality, the models can be dynamic and keen. An AR application can show a pounding heart or the planets turning around the Sun or a delivery storm.

In an AR application, everything is amazing. Dinosaurs, space bodies, substance blends, internal organs, normal marvels – anything can be made into a 3D model to add visual assistance to the subject of study.

For example, Aug That! AR application expected for grade schools offers a few numerous AR courses highlighted making energetic understudies love learning.

#### **2.5.4 Better Perception of Size and Prospect**

Numerous applications don't utilize AR however uphold intuitive learning. We can control objects on our gadget screen by hand motions – move, pivot, zoom in, or out. Simultaneously, AR adds another viewpoint – the understudies can outwardly measure the size, shape, and relative situation of items.

For instance, think about the open doors that AR can provide for math. Seeing the shapes in 3D, making cross-segments, writing shapes inside one another – every one of these exercises can assist with building considerably more strong information than understanding books.

#### **2.5.5 High Synergism**

AR influences virtual things "to have a spot" to this current reality. In AR, understudies can handle the 3D models like they were certifiable. This associates the learning cycle colossally, as it makes a more complete picture of the subject.

Knowledge moreover gives a huger degree of self-rule to understudies. They can inspect the subject picking their situations instead of following the embraced ones.

Despite more essential responsibility, savvy AR applications give the understudies the impression of chance and authority over the learning cycle.

Cave Western Reserve University alongside Cleveland Clinic dispatched a joint endeavor with Microsoft using Microsoft HoloLens mixed reality glasses in an innovative clinical instructional method getting ready.

### **2.5.6 Quicker Learning**

AR licenses including different information to objects on the screen. This part is by and large used in traveler applications where the information shows up when the camera centers to a chronicled development or an entertainment place.

In any case, the teaching method can use this segment, also. With the help of thing affirmation or text affirmation, the application can show the advantageous information on the screen near the article. For example, if you point the camera at an apple, you can see the healthy information.

By setting the additional information rapidly near the relating object, the application, from one perspective, diminishes an occasion to find the article depiction and other information, and, of course, makes a more grounded interface between the thing picture and its data. Therefore, the data is made speedier and held longer.

Google Translate as of now uses augmented reality to give second understandings to any substance to which the cell phone camera is pointing.

### **2.5.7 AR in the Classroom**

AR is an emerging example. At the same time, the market for academic devices is prepared for advancements, and it enthusiastically gets new developments.

Learning applications reliant on PC produced insight and augmented reality are finding ways into the activities of different subjects in schools and universities.

Augmented reality application advancement for education is a difficult assignment. In the event that your target crowd is kids, your test is twofold, as youngsters see any mistakes or bugs quickly and are not as pardoning as more established understudies. Plus, the data introduced in the AR application should consistently be confirmed.

Augmented reality applications should be intelligent, natural, and easy to understand. The nature of the visual parts should be brilliant, and if the liveliness is utilized, it should be smooth and regular.

Thusly, if you decide to develop an augmented reality application to be used in a homeroom, you need a strong improvement accomplice. A specialist augmented reality progression association can direct you on the most ideal approach to make an AR application that will have academic regard and pull in the understudies all the while.

### **2.6 Is AR a Distraction**

Since AR games have appeared to occupy us, is it generally an interruption? Are work applications a danger? I accept the response to this is additionally yes and no at a first look.

At the point when you're playing a game, it's different than utilizing AR for your work. They are two extraordinary use cases and one expects you to zero in on your work with the application. Since AR is pointless without the appropriate software it's hard to accuse the gadget itself.

If it's an interruption ought to depend totally on the software designers and the scenario that it's being utilized in. So in a short answer, no it is anything but an interruption when done appropriately and for work. Games are a unique circumstance however and that varies on the person.

## **2.7 Do We Need AR**

Augmented reality is a stunning innovation. The prospects are perpetual and it is by all accounts the heading that the world is taking. For better or for more regrettable, AR is digging in for the long haul. Also, on the grounds that we don't generally hear about it in the news doesn't mean it isn't developing!

## **2.8 AR in Fun eSchool Project**

In this project, AR is introduced in a simple way. Students will be able to see shapes in 3D using Augmented Reality. Suppose when a student clicks on a shape then it will open a device camera then it will ask to show a marker then the student has to show a marker (this marker will be provided by the website as an image). After showing the marker through the camera student will be able to see the selected shape in 3D. It will be like the shape is floating on the window.



## **CHAPTER 03**

### **Background**

#### **3.1 Introduction**

eSchool (For Primary Education) is an online platform to make students familiar with computers. This chapter described the detailed work, related work, and their advantages and disadvantages, and how Fun eSchool is solving the issue.

#### **3.2 Related Work**

There are many online Education platforms on the web. These platforms are also pretty good. That is an advantage of these platforms. But there is a disadvantage that makes these platforms useless for my goal to develop this Fun eSchool project. These platforms have been developed based on other country's pedagogical curriculum.

Also, these platforms charge an amount of money monthly to access their platforms. So, it is not possible to use these web applications in Primary Education. Because our Primary Education is free of cost. This problem is solved by my web application Fun eSchool. It is free to access.

Some related online pedagogical platform is written below:

- ABCmouse
- PBS Kids
- Brain Pop
- Math Seeds

## CHAPTER 04

### Requirements Description

#### 4.1 List of Used Software's

I have used following software's to build the Fun eSchool Website.

- OS: Linux
- Application Design: Figma, Excalidraw
- Language: HTML, JavaScript
- Style: CSS, Tailwindcss
- Front-End Framework: Reactjs
- Back-End Framework: Nextjs
- Tools: Visual Studio Code, Git, GitHub

List of Used Software's to run the application:

- Operating System: Any modern OS
- Browser: Any web browser like Firefox, Google Chrome, Safari etc.
- Network: Wi-Fi or Cellular Data

## 4.2 User Diagram and Description

Clients can perform the below operation in this web application:

- I. See lessons categorized by classes
- II. Play different games to test their learnings

## 4.3 User Diagram

This is simple a simple user diagram. For the Fun eSchool the main user is student. Student can access all the content of the Fun eSchool's content. Student can see study material and play games. Also they will be able to familiar with the AR.

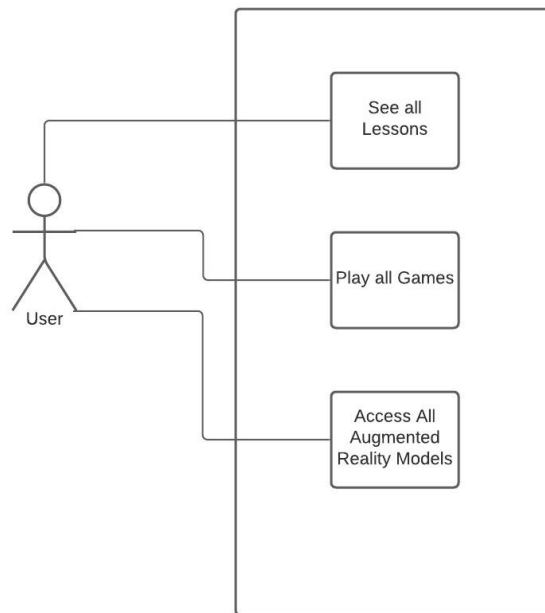


Figure 4.1: User Diagram

## CHAPTER 05

### Design Description

#### 5.1 Design of Front-End

The root part of a website is front-end part. This is the first attraction of an application to user. I designed a beautiful and user-friendly front-end for Fun eSchool.

#### 5.2 Wireframe of Application

This Figure is showing the Formation of the home Component. There are only 3 components in the home Component.

1. Information – What is Fun eSchool
2. Image
3. Action Button

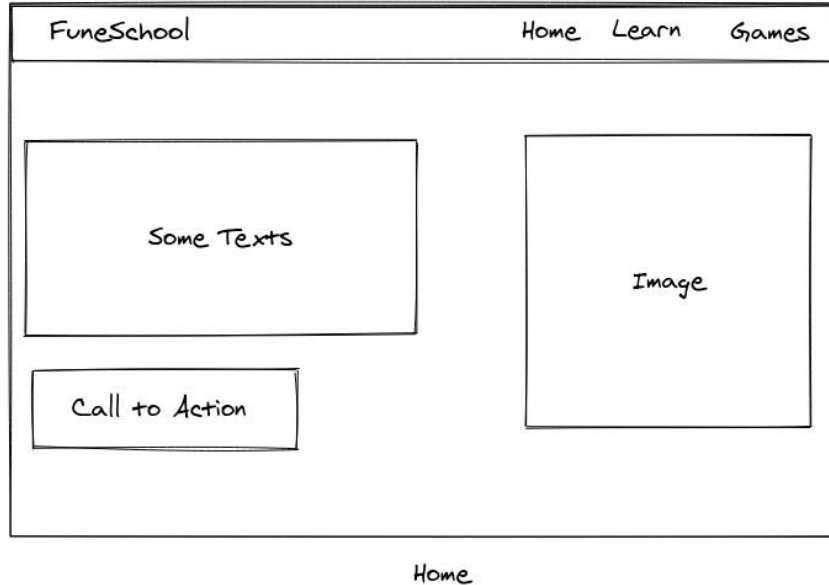


Figure 5.1: Formation of Home Component

Below Figure is information of the learn Component. In this Component there are link to go to the lessons section. Here all courses are arranged according to the class. Like, class-I have only three course Bangla, English, Mathematics. This is how courses are arranged.

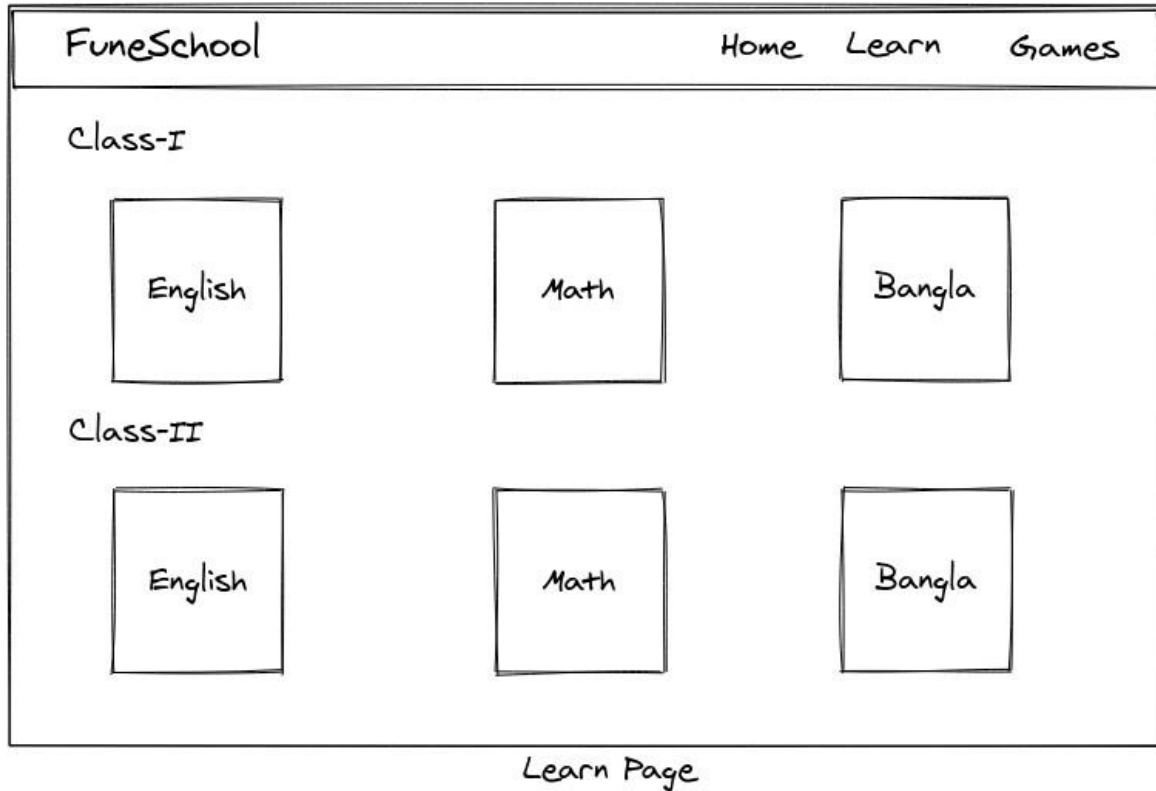


Figure 5.2: Formation of Learn Component

This Formation is for English lesson. Here are 3 components in the English lesson Component. One is Learn word which is used to learn the English letters. Second on with ©Daffodil International University

learn number which is used to learn the numbers. And finally Review learning is used to recheck student's learning so far.

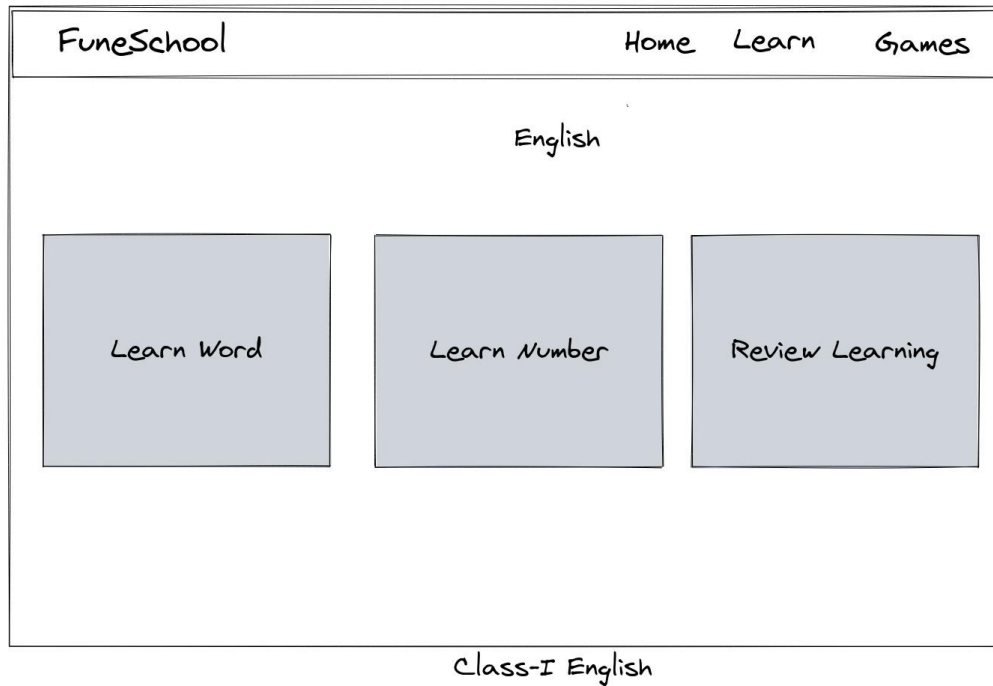


Figure 5.3: Formation of English Component

BelowFigure is about the games Component of the Fun eSchool. Here will be all the games that are developed in this platform. Student can choose game and game window will be displayed then student can play.

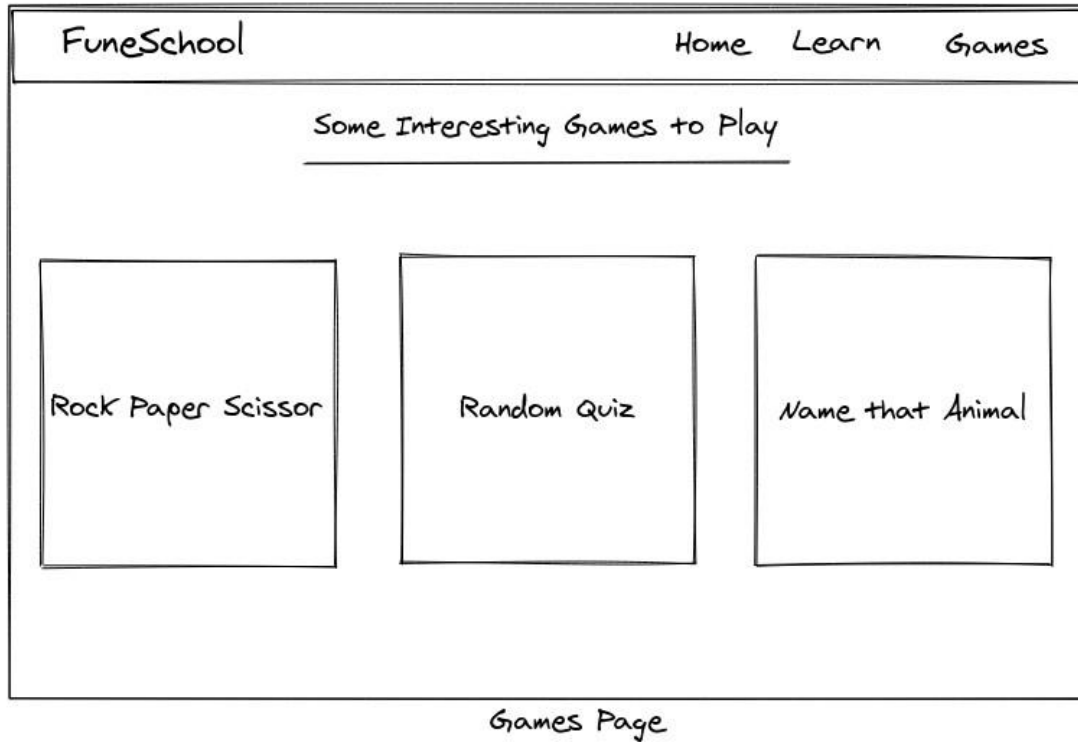


Figure 5.4: Formation of Games Component

BelowFigure is about the Formation of the Name that Picture game. Here are some components score board, an image, a text box to input and a Next button to go to next question after answer the current question.

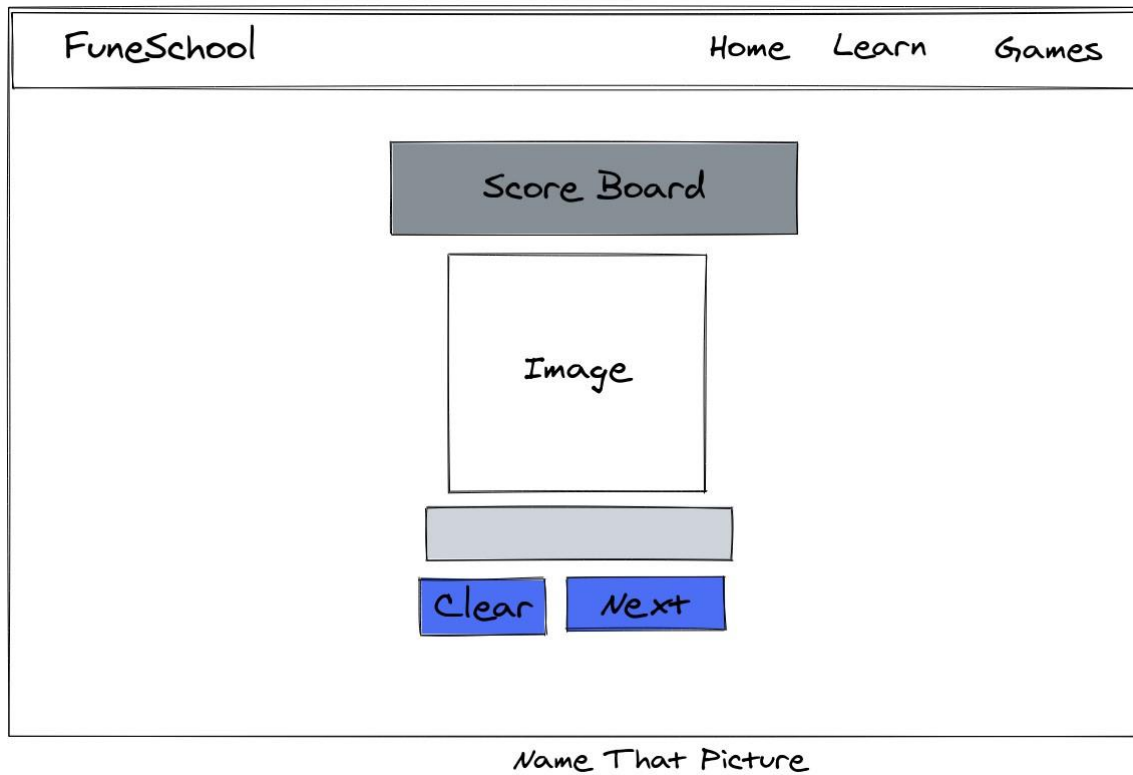


Figure 5.5: Formation of Name that Picture game Component

This is about the Counting game. Here images will be displayed at random times. Then use have to count how many images are there, then they have to some that answer by giving in the text-field.



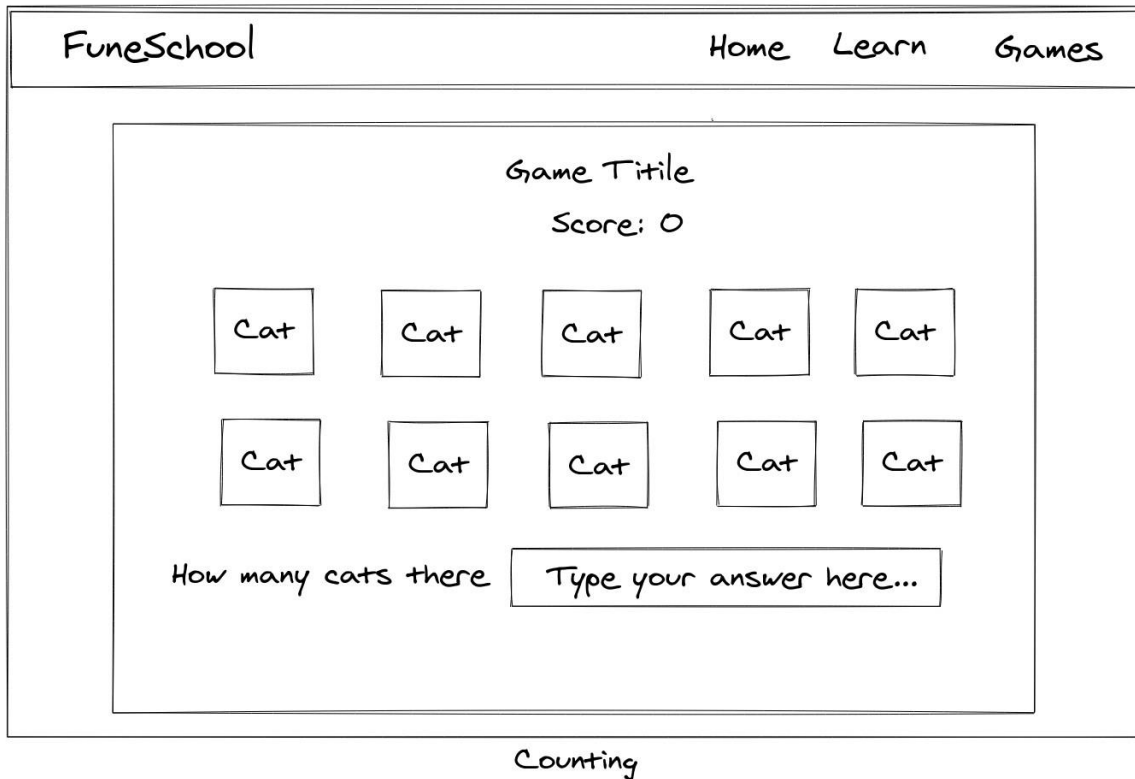


Figure 5.6: Formation of counting games Component

Following Figure is the representation of the score board component. When student finish the game then this score board will display with how many question score a player do, how many wrong question the player give and with a play again button that will be responsible to the restart the game.

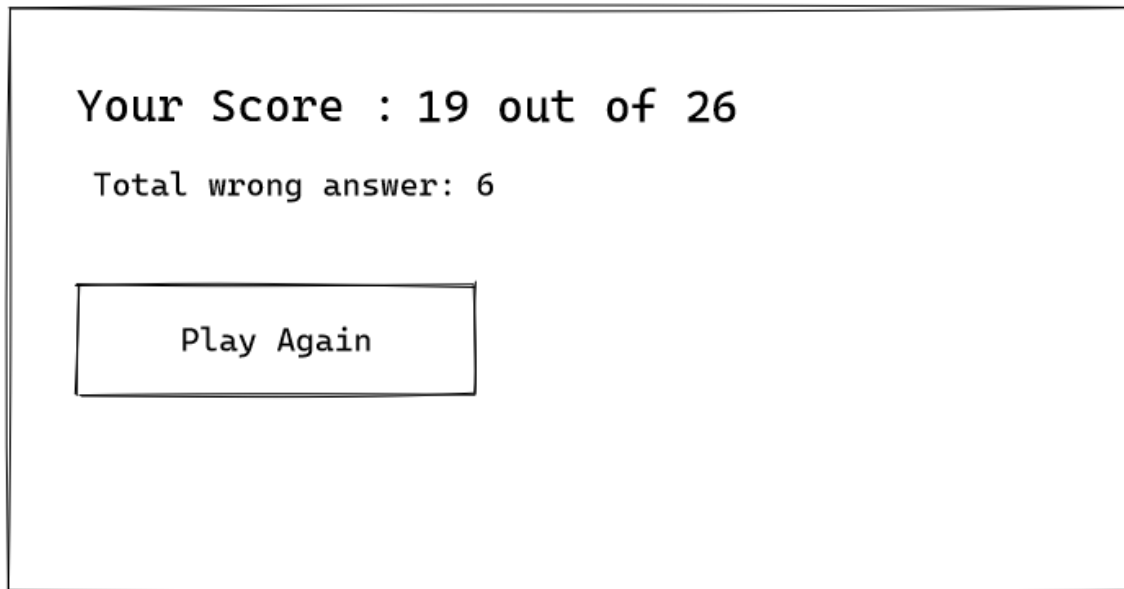


Figure 5.7: Formation of score board component

This is the basic representation of the AR Component. It has some basic shape link. When It will be clicked then then it will open the that selected shape in 3D. This Component will contain all the content of the Augmented Reality for this Fun-eSchool web application.

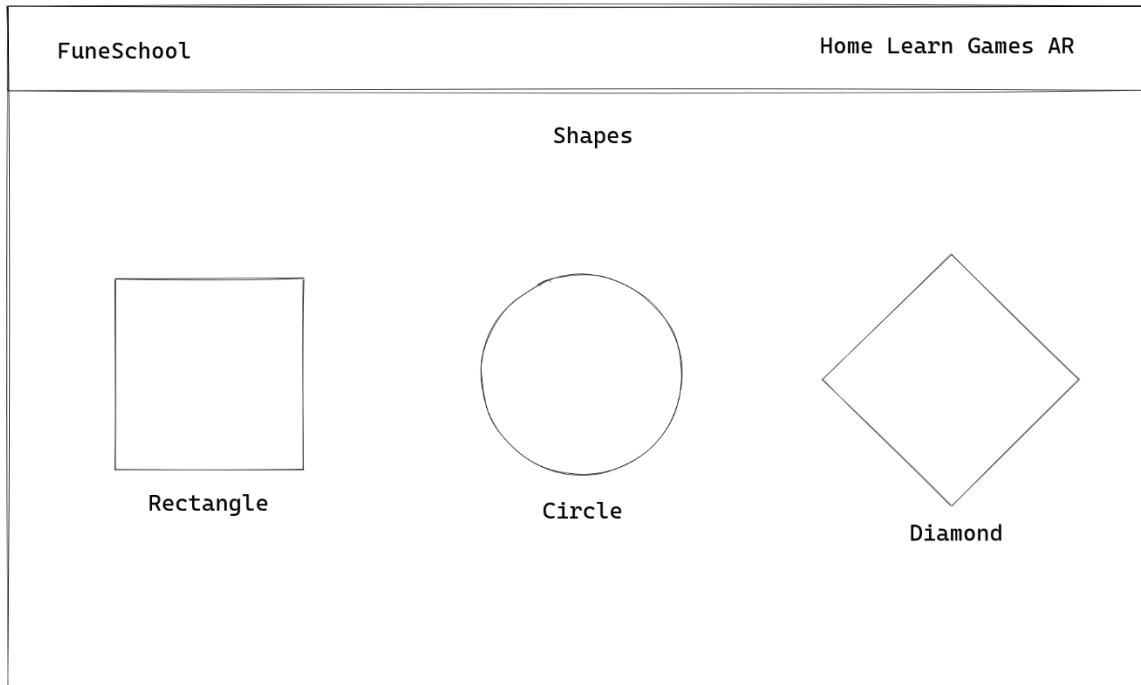


Figure 5.8: Formation of AR Component

Following Figure is the basic representation of the AR Component when AR content will be clicked to display. In this case when rectangle shape is clicked from the previous Figure then it is showing 3D rectangle by identifying marker through the camera

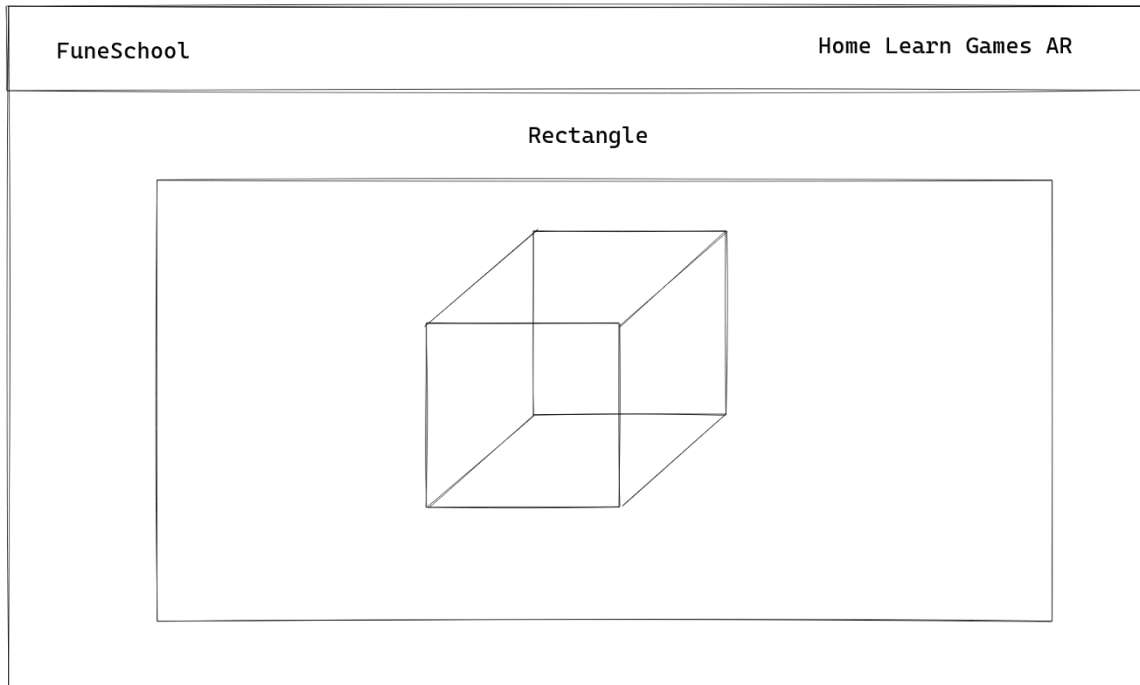


Figure 5.9: Figure of Rectangle in AR Component

### 5.3: Back-End Design

This Fun eSchool web application is developed with Nextjs. Nextjs is a react framework for production. This framework handles all the back-end design itself. I just stored the data in a server then called data by API and fetch the data in the necessary component.

## CHAPTER 06

# Implementation

## 6.1 Implementation of Front-End

For implementation of front-end I have used reactjs. Reactjs is a JavaScript library to build web components. It makes a web application more scalable, fast to load. So, website will give a better user-experience to our user.

### 6.1.1 Application Formation

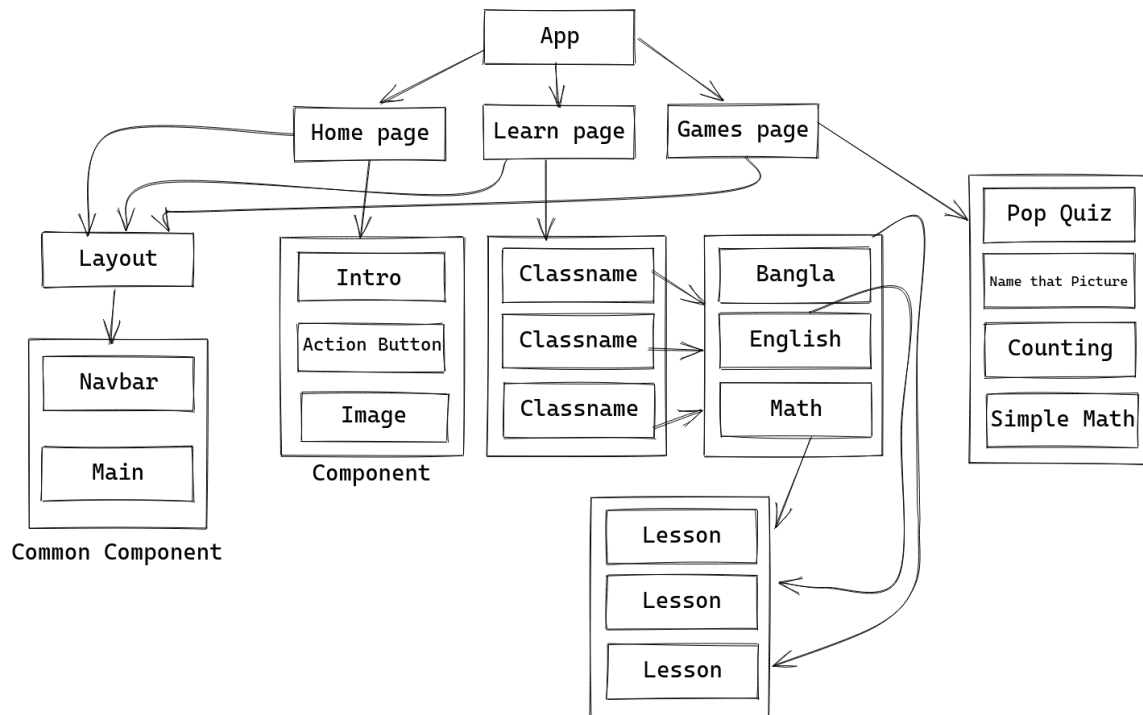


Figure 6.1: Application Formation

## 6

### .2 Home Component

This is the Home Component of the Fun eSchool. It shows some description about the website and an action button to go to in the learning Components and an Image.

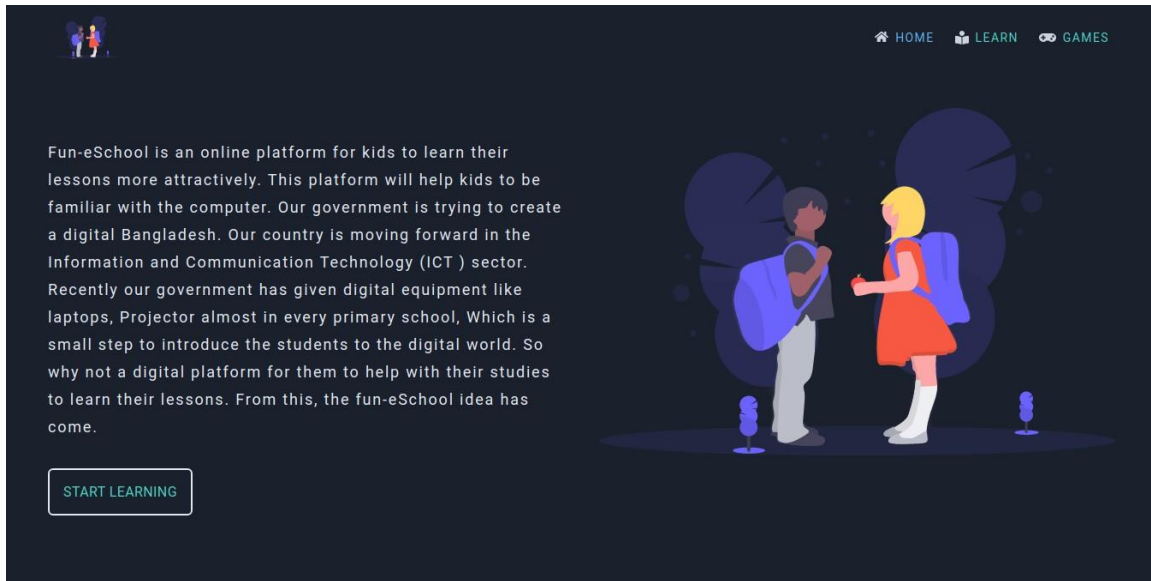


Figure 6.2: Home Component

## 6

### .3 Learn Component

This is the Learn Component of the Fun eSchool. It shows all classes.

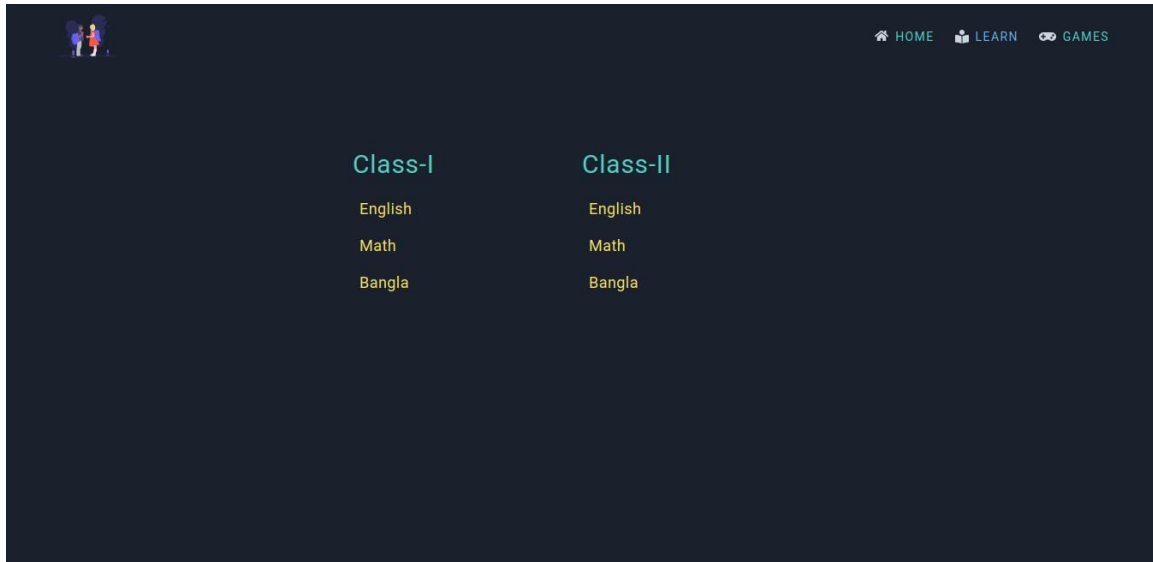


Figure 6.3: Learn Component

## 6

### .4 Class-I English Component

This is the Class-I English Component of the Fun eSchool. It shows all lessons.

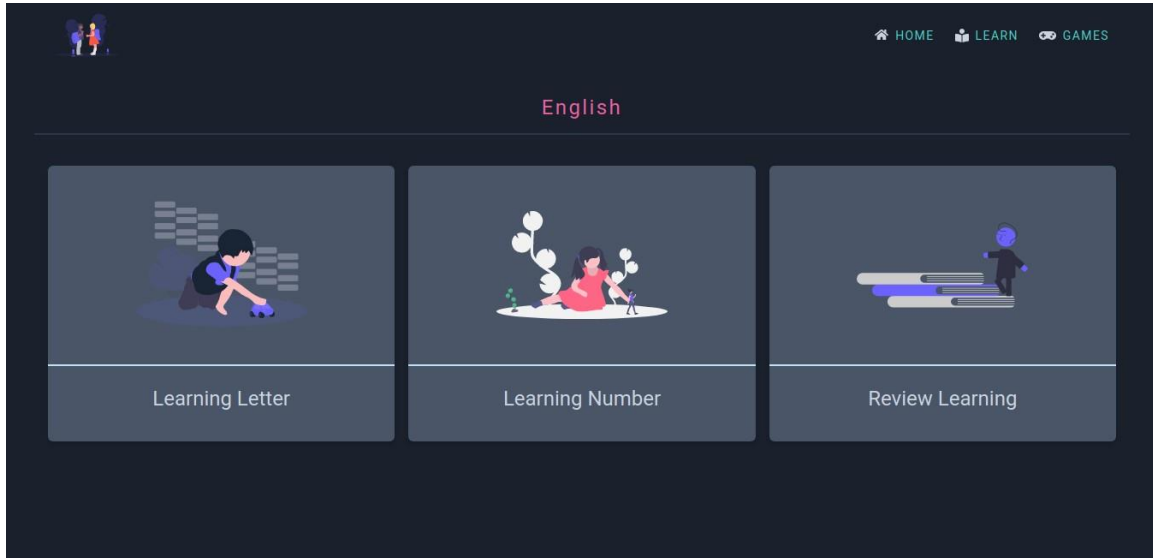


Figure 6.4: Class-I English Component



# 6 Component

## .5 Learning Letter

This is the Learning Letter Component of the Fun eSchool.

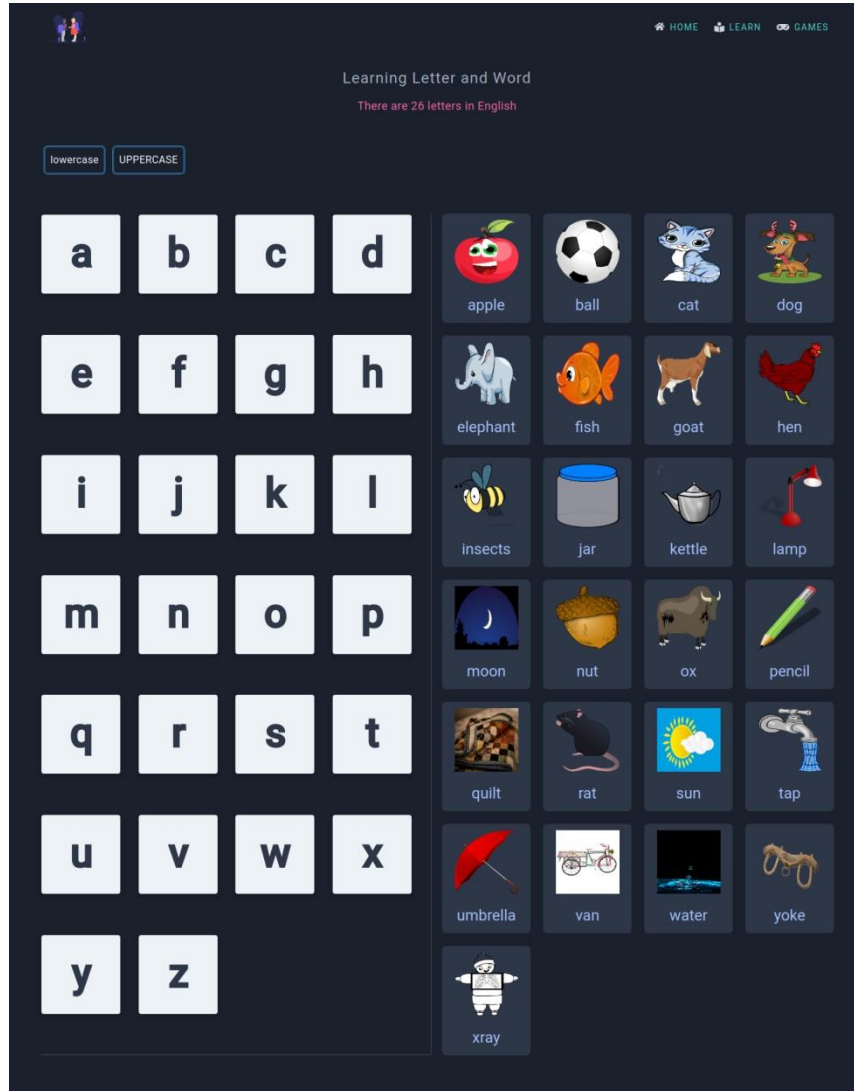


Figure 6.5: Learning Letters Component

## 6

### .6 Games Component

This is the Games Component of the Fun eSchool. It shows all the games in the application.

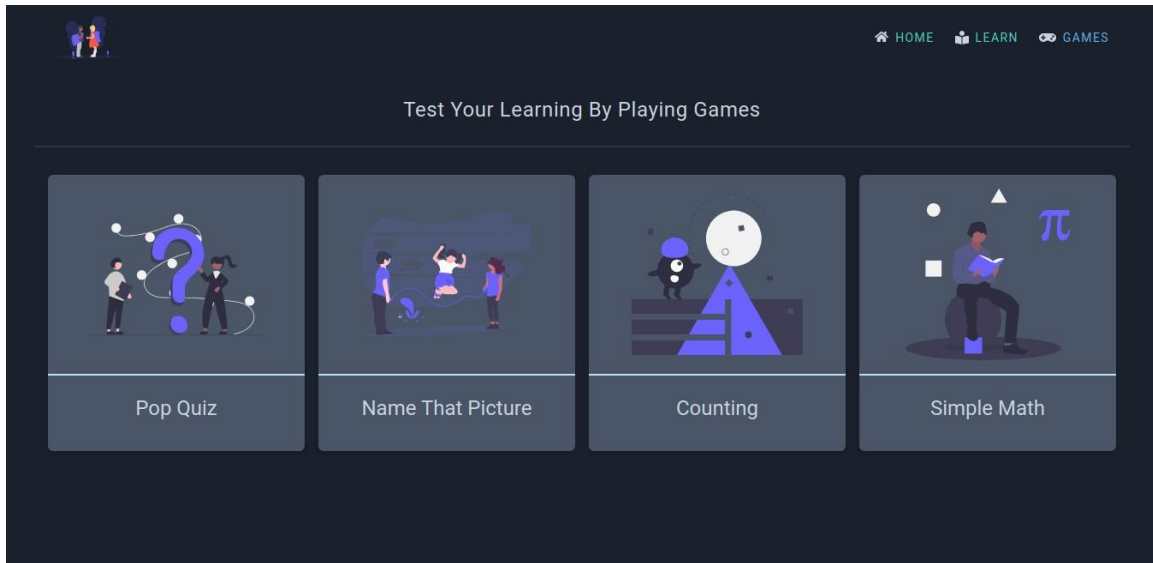
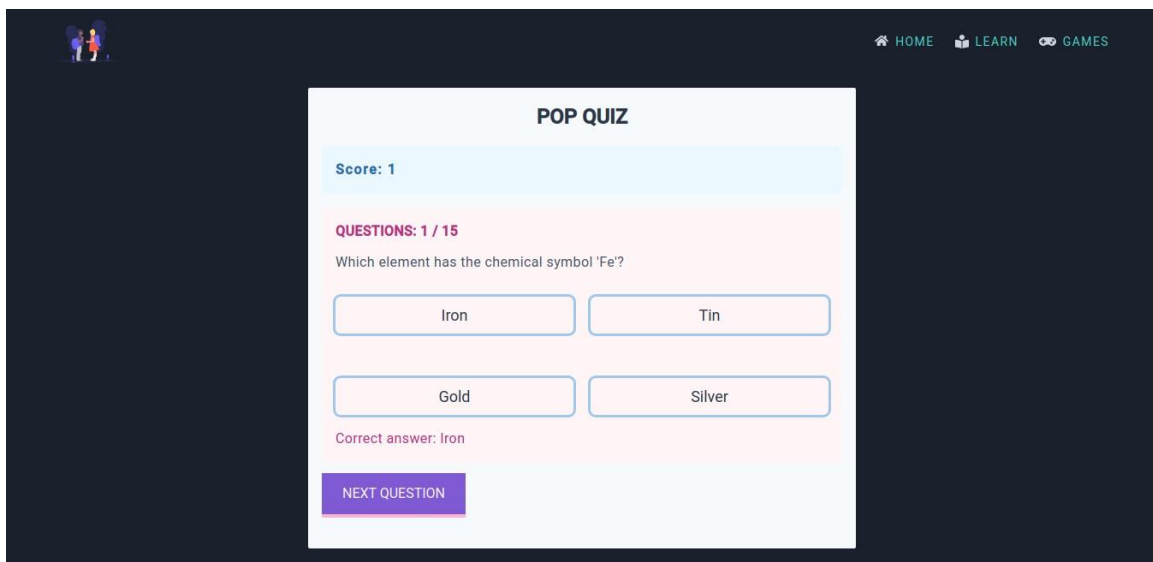


Figure 6.6: Games Component

### .7 Pop Quiz Game

This is the Pop Quiz Game Component of the Fun eSchool.



## 6

## Component

Figure 6.7: Pop Quiz Game

Here Question will be appearing one by one with 4 options. Student have to choose at least one option. Then student will be able to see the right answer in the below. If the answer is correct then the score will add one point. Student have to answer total 15 question. Next Question button will be used to go the next question.

### .8 Name That Picture Game Component

This is the Name that Picture Game Component of the Fun eSchool.

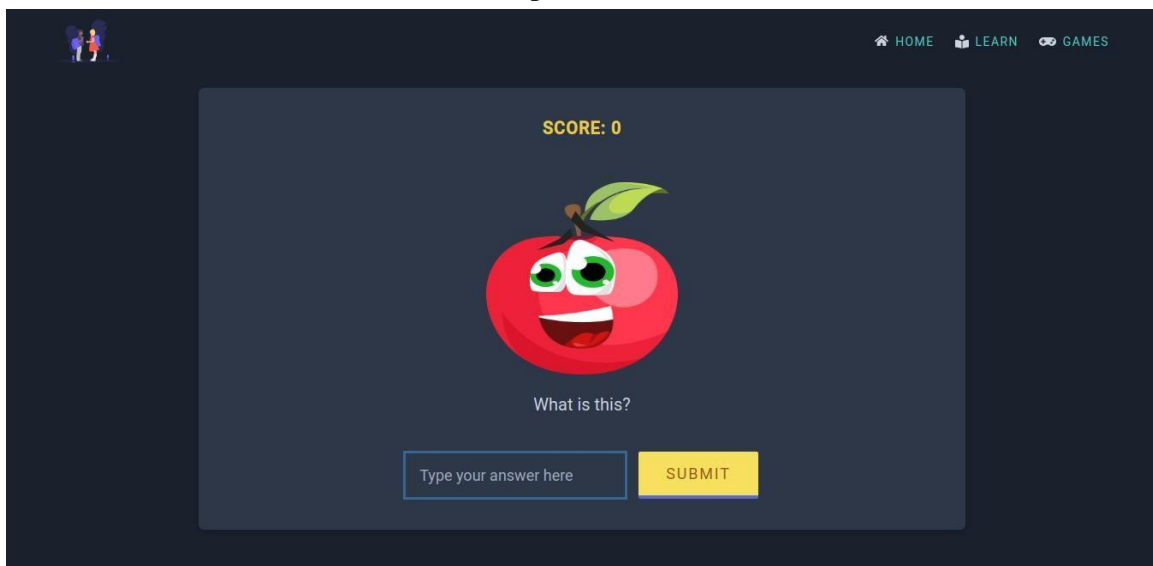


Figure 6.8: Name That Picture Game

This Name That Picture game gives a picture then student have to recognize the image and write the answer in the text box below. After entering the answer in the text-box student have to press enter key or click on the submit button. If the given answer is correct then 1 point will be added to the score board. After clicking the submit button a new image will be displayed. If the text box field is empty, then student will not be able to go to the next image. This text-field cannot be empty.

## 6

### .9 Counting Game

This is the Counting Game Component of the Fun eSchool. Image will be displayed randomly then student have to count all the image and write the total number of images are displayed in the answer box.

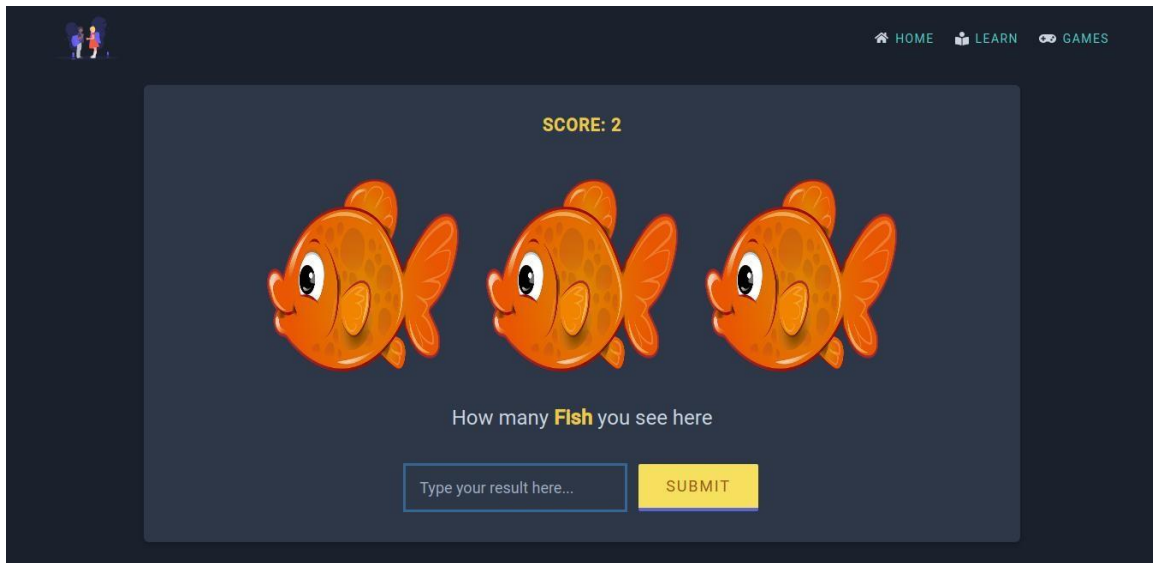
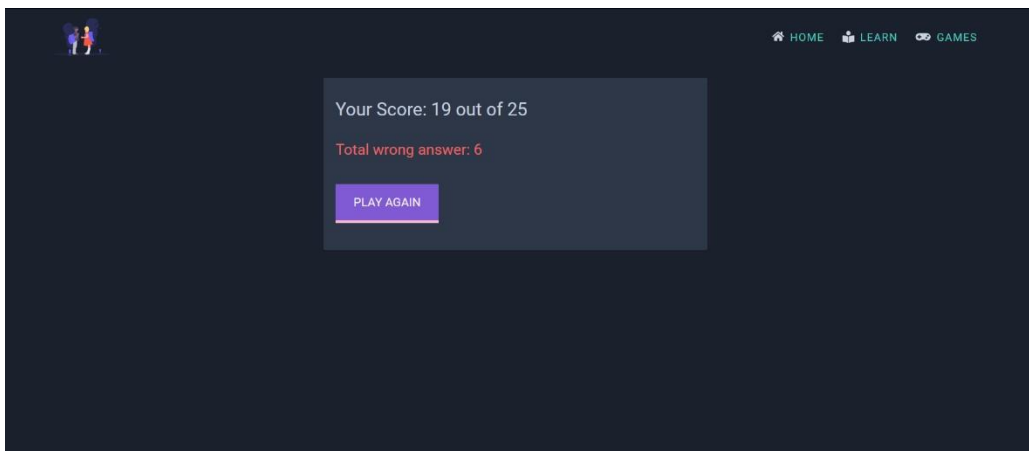


Figure 6.9: Counting Game

### 6.10 Score Board

This is the Score Board. After finishing a game then it will be displayed.



**6**

## **Component**

Figure 6.10: Score Board

## 6.11 Augmented Reality Page

This augmented reality page contains some information about what is augmented reality. And an action button to go to Augmented Reality Model page.

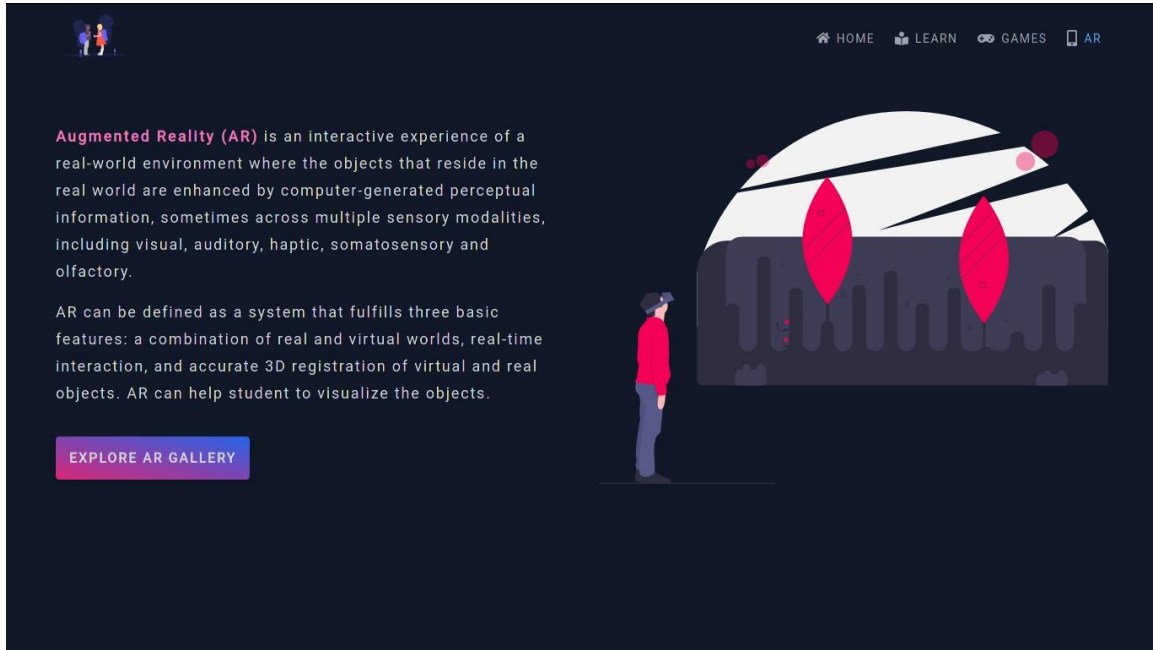


Figure 6.10: Score Board

Here is some information about the augmented reality on the left side. A button labeled as Explore AR Gallery which will take the student or user to the augmented reality model gallery page. That page is the main part of the eSchool web project.

## 6.12 Augmented Reality Models Gallery Page

This page contains all the AR models. User will be able to click one of the models then it will open a window asking the permission for accessing the user device camera. After giving the permission user have to show a marker image that will be provided in the website. After focusing on the marking image user will be able to see the model. It will be like a realistic object of the model. Sometime user has to wait for little bit of time for loading the model. Time will depend on the size of the model.

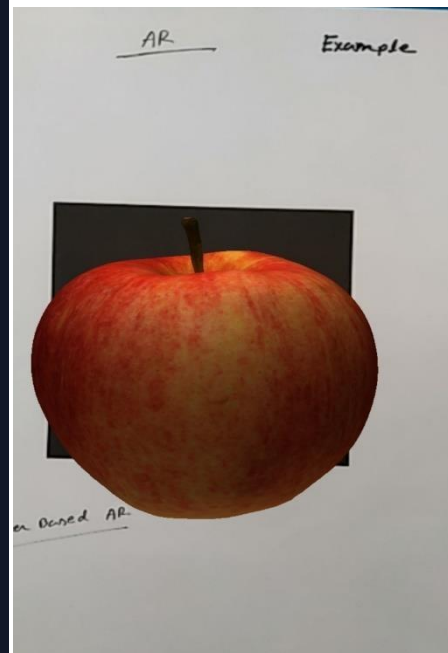
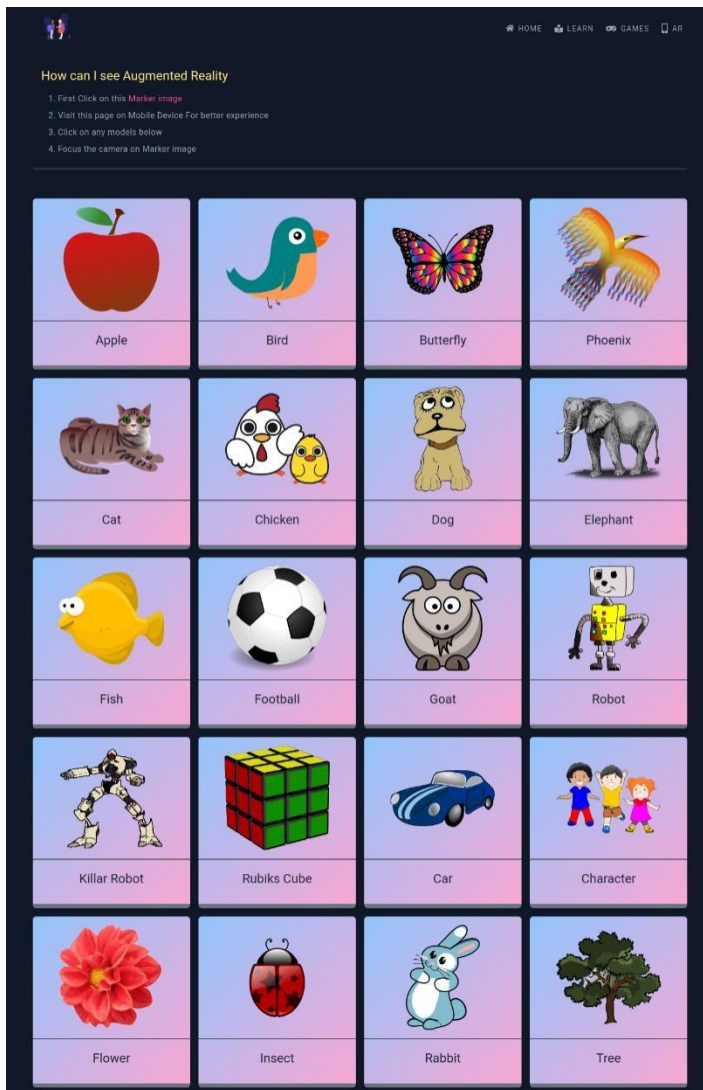


Figure 6.12.2: An Apple AR Model

Figure 6.12.1: AR Model Page

In the AR Model pages there are model card contain AR model image and name which will be act as a button to display the model. After click on any model name it will be open on a new window. After focusing on the marker image relative model will be displayed. If student use the mobile device or the pc screen which has touch capability, then student will be able to interact with the model. They can zoom-in or zoom-out the model. Student can rotate the model in every axis. That will be helpful to give them an idea what the object looks like in real world. In the right side of the above image we can see an apple that is displayed after click on the apple model. This is the way these all models in the model gallery page are working. The below image is the marker image for the models.



Figure 6.12.3: Marker Image



## **CHAPTER 07**

### **Conclusion and Future Scope**

#### **7.1 Conclusion**

By the grace of Almighty Allah, I have successfully completed my Web Application project called Fun eSchool and documentation. After the long-term of thinking, planning, discussion, implementation I am in the last session and happy of completion. Fun eSchool is ready to help the student to be familiar with the computers and web.

Until now students are not familiar with the computers. They only read their text book in old way. This is the era of computers. If they do not keep the knowledge of computers, then they will not be ready to cope up with the modern world. So, it is important to become familiar with computers. Fun eSchool give this opportunity to become familiar with the computers with their studies.

#### **7.2 Scope for Future Development**

1. Make more Augmented Reality content
2. Implement a coding platform to learn coding
3. Add more useful games
4. Make more contents for all classes in school

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## APPENDICES

### Appendices: Project Reflection

All through the excursion, since a year ago I have procured a tremendous involvement with my life. When I started the journey, I didn’t know about many JavaScript libraries like Reactjs and frameworks like Nextjs. By developing this Fun eSchoolonline platform I have developed a solid base of my knowledge about these libraries and frameworks. It was hard for to me know the proper steps of developing a web application. But I was not hopeless. Then I analyzed the requirements and made a proper plan that made me even more confident to develop the application. I faced several problems when I developed the work with API in the project.

After a year of hard work, I have developed my application. I have gathered a lot of ideas about other web applications. When I was exploring other web applications to find out their lacking then I know any information about the web application. Now I have the belief that, if I work hard, everything is possible to do. After all, I am grateful to The Almighty

ALLAH and my respectable supervisor **WardaRuheenBristi** for her support and excellent guidance throughout the journey.