

# **A Mobile App for Kids Easy Learning**

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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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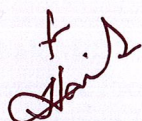
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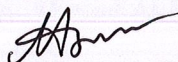
This Project titled “A Mobile App for Kids Easy Learning”, submitted by Md.Ariful Islam ID:152-15-6194 to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering (BSc) and approved as to its style and contents. The presentation has been held on 5th December, 2019.

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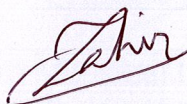
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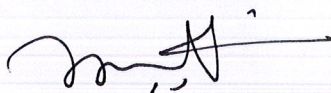
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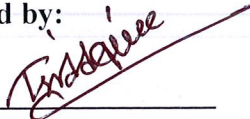
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## DECLARATION

I hereby declare that, this project has been done by us under the supervision of Shah Md. Tanvir Siddiquee, **Senior 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 award of any degree or diploma.

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Finally, i must acknowledge with due respect the constant support and patients of my parents.

## **ABSTRACT**

New generations are growing up in around of new technologies. Smart phones are necessity of students(everyone), in today's date we can't imagine our life without mobile phones, especially for students mobiles are very useful because mobiles are like minicomputer which helps students in general awareness ,it connect them to internet from where they can get helps in their studies. It can also be expensive to provide a computer to each student in school, so a good option is to allow cell phones for research instead. But it has also many negative sides. Controlling, monitoring, and managing approaches are needed to get rid of these worries. This project made for kids to keep learning through entertainment via the application. This application will help children's to learn their primary educations without feeling bore. It will make a new easiest, entertaining way to learn children's basic lessons. Sometimes studying from notebook is so boring and it makes kids sleepy. My main aim to target children's, if they will start this application it might increase their interest for study and they can gather basic primary knowledge's through the application. The main fact is that i researched with that application and tested randomly to various places and i can give guaranty that it has no negative side effects. Anyone can use this application so comfortably.

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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Smart phone offers us better and advanced technologies as similar like desktop or laptop. Smart phone has good features as like Camera, Messaging, Internet, many more software's. Now a days using these software's we are used to with smartphones .we easily can say without smartphone we cannot think our daily day. In everywhere almost everyone using smartphone in our country. Mobile has become essential components in our daily life. It is also small in size so that we can easily carry it in pocket.

As our majority of people using smartphones i tried to make a smart phone software that will help our kids to learn their primary lessons. For this application they don't need to carry their books from here to there, they can easily carry their mobile and move on to any places and still can read through the smart phone.

In this technological world reading books becoming so boring day by day. Children's are addicting to smart phones because of it has interesting features, games, YouTube videos etc. My goal is to analyze the education system of a children and include the primary education lessons into a game to teach them through entertainment. Smart education system will become so easy, entertaining and user friendly.

### 1.2 Motivation

When parents check in with Kids about what they're doing it's usually insipid watching YouTube videos, cartoons or playing games etc. Usually children's like to play all time. We can't force them for study or anything else. We have seen that we can make them happy by playing with them or anyhow giving them entertainment, fun. They are our future, we must have to grow up their skills. Besides everything they also need their primary education. So i am trying to make a game that will cover theirs all basic education so that they can play and also learn.

Another issue is often we see that children's can't remember their lessons, most of the time they forget what they have learned. So I am ensuring that this game will help them to keep the learned lessons in his/her mind for longtime. As children's are addicted to games, if this game gives them entertainment they can learn and remember what they learned.

### **1.3 Objectives**

My goal is to analyze the education system of a children and include the primary education lessons into a game to educate them through entertainment and enjoyment. This game is based on children's. I will try to read children's mind and research that how to insert the educational lessons easily by playing game within them. A children must need the primary education to grow up his/her skills. It's our responsibility to make them educated. There will be also make their brain more sharp, vibrant and strong.

- Learning Bangla Alphabet, Numbers.
- Learning Bangla Animal, Fruit, Bird, Flowers name
- Learning Bangla Days and Months name, Season name.
- Learning Bangla Human Body Parts name.
- Learning Bangla Multiplication
- Learning Bangla Poem
- Learning English Alphabets, Numbers.
- Learning English Animal, Fruit, Bird, Flowers name
- Learning English Days and Months name, Season name.
- Learning English Human Body Parts name.
- Learning English Multiplication
- Learning English Poems
- Painting.
- Puzzle Game.

## **1.4 Expected Outcome**

Expected outcome given below:

- Teaching Primary Lessons to kids.
- Keep away kids from unnecessary works.
- Reduce wasting time for a kid.
- Parents can teach their children's easily through mobile application.
- Decrease weight books carrying to any places.
- Protecting the kid from negative impact of internet, social media, and uncensored sites.

## **1.5 Report Layout**

This project report based on six layouts and i have discussed full project in these six layouts. Given below:

First Layout: I have covered in this format- Introduction of the project, Motivation of this project, Objectives and expected outcomes.

Second Layout: I have covered in this layout- Background of the application, related works, comparative studies, scope of the problems, challenges.

Third Layout: I have covered in this layout- Business processing model, requirement collection & analysis, use case modeling, logical data model and description.

Fourth Layout: I have covered in this layout- Front end and Back end design, interaction and UX design, implementation requirements.

Fifth Layout: I have covered in this layout- Implementations of Database, Front-end design and interactions, testing implementation, results and reports.

6th Layout: I have covered in this layout- Conclusion, Discussion and scope for the future work.

## CHAPTER 2

### BACKGROUND

#### 2.1 Introduction

Every child's need to be educated to build an educated society, educated nation, educated World. Primary lessons are the first pillar to them towards their higher education. I am covering those primary lessons in my A Mobile App for Kids Learning application. I expecting that children can now learn their necessary lessons using my application through entertainment.

#### 2.2 Related Works

##### A. Bornomala (বর্ণমালা):

An application which is created by the Bangladeshi devloper, which really help the children to learn Bangla alphabet and Bangla number, Human Body Parts effectively.

##### Positive Review:

1. Somebody told the apps is very much helpful for the childrens, they can learn easily by it.
2. Good initiative for the children of Bangladesh.

##### Related images:



Figure 2.2.1 Bornomala

### **B. ABC Kids:**

Very useful application for children's. This app has over one thousands word in different languages. You can easily learn various languages from this application.

#### **Positive Review:**

This application covered Alphabets (Uppercase, Lowercase with animated view), letters drawing that is very useful to learn for a kids. And this app has very much positive reviews from its users.

#### **Related images:**



Figure 2.2.2 ABC Kids

### **C. Shishur Prothom Path (শিশুর প্রথম পাঠ):**

From this application children can learn poem, Bangla words, Bangla sentences, and numbers.

Children also can paint whatever they want.

#### **Positive Review:**

1. Children can easily learn the Bangla words with animated pictures.
2. It is useful to get familiar with the Bangla Words.
3. Children can learn Bangla poem.

#### **Related Images:**



Figure 2.2.3 শিশুর প্রথম পাঠ

## 2.3 Comparative studies

I analysis some kids educational gaming apps but those apps don't fulfill all the specifications and primary lessons. I took some ideas from different applications and made my own user friendly educational gaming app A Mobile App for Kids Easy Learning which has so many uncommon features.

Table 2.3.1: Comparative Studies

Application	Name	Size	Activity Classes	Features
Related	Bornomala	15.8mb	12	Bangla (Letters, Numbers, Human body parts, Word guessing quiz.)
Related	ABC Kids	75mb	13	English (Letters, Uppercase, Lowercase, letter drawing.)
Related	Shishur Prothom Path	8.2mb	6	Bangla (Letter, Number, Poem, Paint.)
My Project	Easy To Learn	47.8mb	35	Bangla (Letter, Number, Poem, Season, Flowers, Animals, Fruits, Months, Multiplication, Human Body parts, Days, Birds.), English (Letter, Number, Poem, Season, Flowers, Animals, Fruits, Months, Multiplication, Human Body parts, Days, Occupation.), Paint, Puzzle game.



## **2.4 Scope of the problem**

This is primary education application for kids, while making this app i have to face with many troubles and problem given below:

### **2.4.1 Taking large Memory space**

When I added jpg and raw audio files it takes a good space of the memory that made the application so large. So that the runtime of the apps become slow. Then i converted all the images and audios that reduces a large memory space and the application decreases its size.

### **2.4.2 Adding Vocal**

Without vocals the app is looking so simple and useless. As parents teach their children's loudly, from this concept i added vocals to each content so that the children's can learn correctly. But after adding vocal there was creating so many media players and it has made the app error. After trying through the code i resolved it.

### **2.4.3 User Friendly**

As the main target user of this application is kids. So if the applications activity will so complex then children's can't be able to use this application and they literally will lose their interest from this app.

## **2.5 Challenges**

The challenges i faced in my project given below:

### **2.5.1 Problem finding**

I tried to analysis the application to get problems. Is this educational application. Actually working? Or if the children's can actually learning correctly? If they actually having interest in that app? Finally i get positive things.

### **2.5.2 User friendly and lite UI**

As the main target user of this application is kids. So that I created this app with so simple user interface that a kid can easily understand which button they have to click or what they have to do.

### **2.5.3 Time management**

It is so necessary to maintain the time. Is the application working in time? Is it taking too long time to load? But after converting the images and audios i reduces many memory space and the application is running timely.

## **CHAPTER 3**

### **REQUIREMENT SPECIFICATION**

#### **3.1 Requirement collection & Analysis**

Requirement collection is one of the most important part of building application. It can decide how i serve the user by the application, specific problem need specific requirement. So my application requirement given bellow:

- There is no login and registration options.
- This application is totally free of cost, anyone can use.
- Blind children's also can learn from this application as i added audios.
- No complexity, very simple user interface.
- Primary educational lessons with funny voices, funny cartoon images and with clicking mood.
- Lessons through entertainment.

##### **3.1.1 Hardware and software requirement for System**

So basic UI, extremely little space murdering application i made for each sort of client. There are a few prerequisites for this application:

- Smart Phone
- Android Jellybean form
- 1gb Memory Ram
- About 50 MB Memory space

No special permission needed for this application because of the main targeted users are children's.

##### **3.1.2 Analysis**

I have studied and analysis a lot to create this application. I have enough confident to make this project suitable for child. I researched in various sites, analysis few similar applications. Noticed that what they don't have in their applications, and what i can

add to make my app unique. Application i used to learn some concept to give better experience, gather knowledge to complete this project. i designed my project in Android Platform because of majority of smart phones user of our Bangladesh uses Android Smartphone.

### 3.2 Use case & Description

This application can operate only with the user view. The diagram are given below:

Table 3.2.1: Use case of user

<b>Use case ID</b>	Student
<b>Use Case Name</b>	A Mobile App for Kids Easy Learning
<b>Description</b>	User can interact with all activities
<b>Pre- conditions</b>	No condition apply
<b>Standard flow</b>	From Main page visit any kind of activities

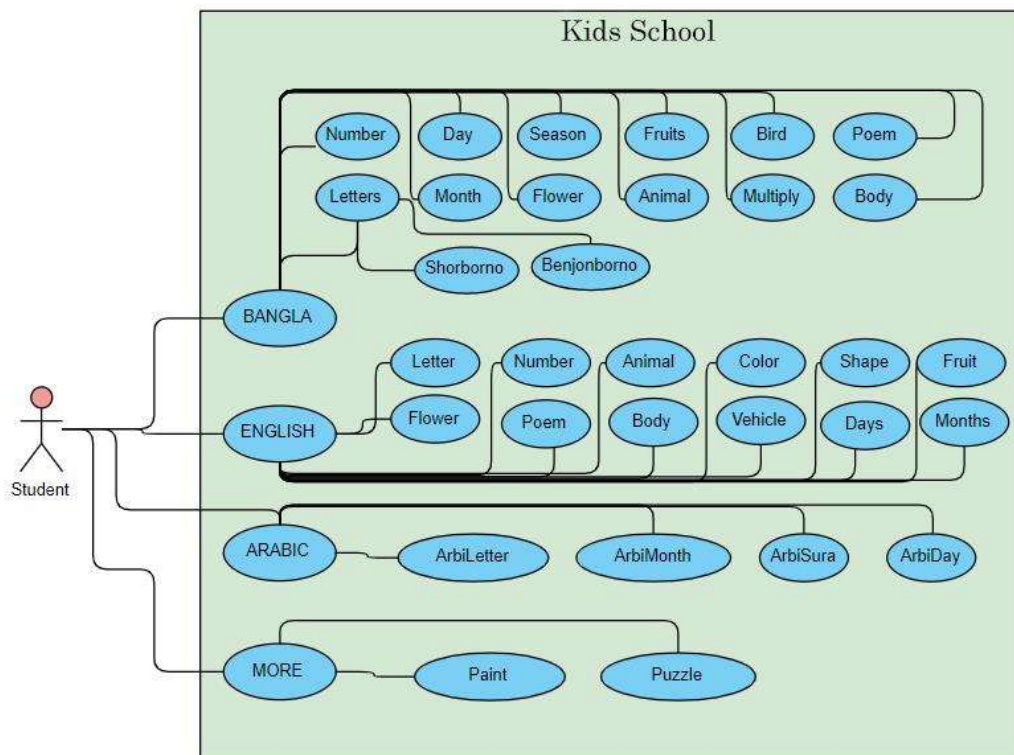


Figure 3.2.1 Use case of user

### 3.3 Activity Relation Diagram:

Activity relation diagram is the flow of activity that provide the relation between the activities, how one activity interact with another activity:

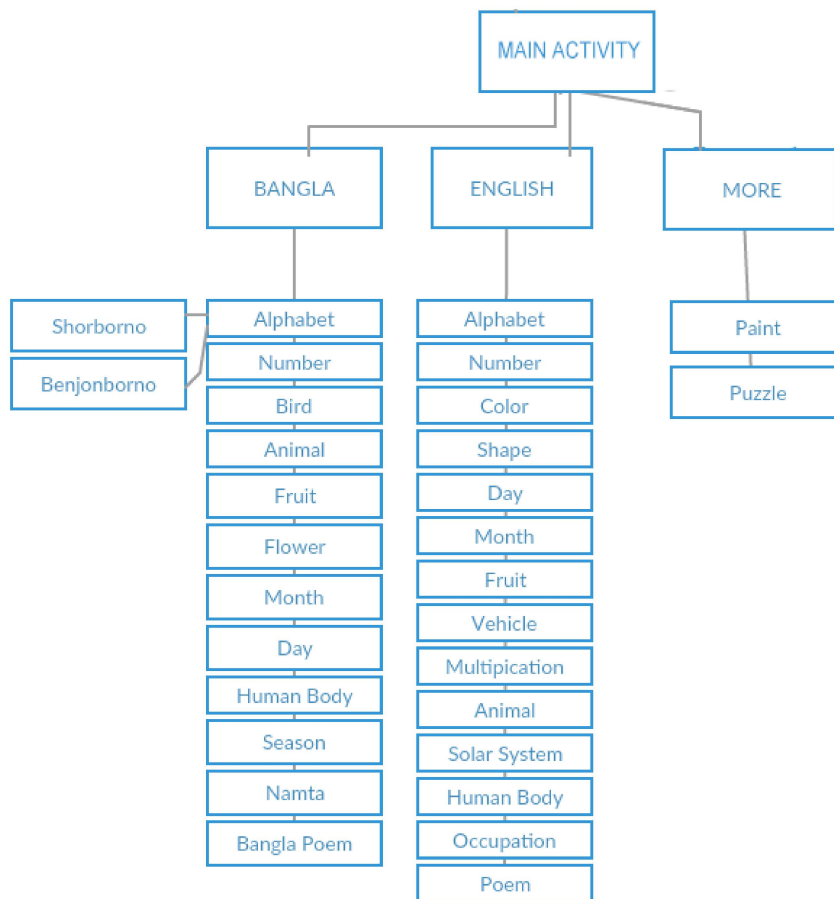


Figure 3.3.1 Activity Relation diagram

### 3.4 Design Requirements

- Application Requirement: Specified that how the application will perform. And task is to make my application performance so fast and without any error kids can use.
- Efficiency requirements: This application should be run faster than the existing similar applications.

- Reliability requirements: Even any hazard occurs though the application should be able to operate or perform.
- Usability requirements: The application should be so user friendly and easily can interacts with users.

## **CHAPTER 4**

### **DESIGN SPECIFICATION**

#### **4.1 Front-End Design**

Front End Design is the display design in what user directly can interact. I tried to make simple user interface so that parents and child both can easily and comfortably can use this application and they don't have to face any difficulty. I uses Lunacy to design the layout, for png and jpeg and background files i used Android Photoshop and for layout coding we used XML.

Front End Design has been designed with linear layout and this layout is created vertically. I used next button, play button, previous button, and simple images and audio files in this application. Any user or kids can easily guess what to click and which event will happen next.

#### **4.2 Back-End Design**

The Back End Design has done by Java Language. First to last i used raw java coding to make the KIDS SCHOOL Application. In Back-End i have used 32 activities. There is more than 30 features in this application. In Back End i also have used framework for showing YouTube videos. In all activities i have used java raw coding.

#### **4.3 Interaction Design & UX**

User interface defined the Front End design of the application but the UX also known as User experience (UX) focuses on having a deep understanding of users, what they need, what they value, their abilities, and also their limitations. ... UX best practices promote improving the quality of the user's interaction with and perceptions of your product and any related services. So it also an important part of my application.

Interaction is the media of a user and an application. How the user can easily interact with an application is very necessary thing. I have designed the application so that user can comfortably and easily can interact with that application. Hopefully my second edition will have more easier and useful interaction design.



## **4.4 Implementation Requirements**

- Java
- XML for Layout design
- Android Studio
- Adobe Photoshop
- Lunacy

## CHAPTER 5

### IMPLEMENTATION & TESTING

#### 5.1 Implementation of Database

I don't needed to add or implement any database in my application. Because in this application there's no need of storing any data or information in database.

#### 5.2 Implementation of front end design

The implementation of the front end design are given below:

##### 5.2.1 Menu

My A Mobile App for Kids Easy Learning education application's Main Menu: It has three nice buttons for Bangla, English and More options.



Figure 5.2.1 Main Menu

##### 5.2.2 Bangla Menu

When will we click BANGLA option from the Main Menu it Occurs the BANGLA MENU option and this activity has 12 features for children's. It has Bangla alphabet, Number, Bird, Fruit, Animal, Human Body, Season, Day, Month, Poem, and Multiplication.

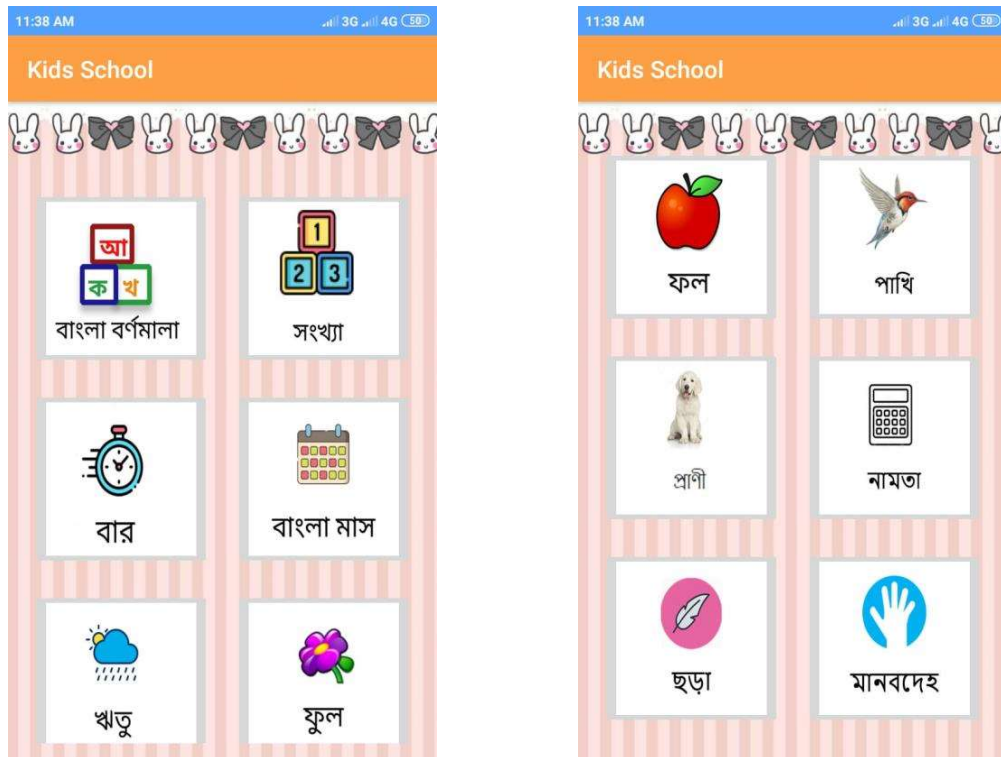


Figure 5.2.2 Bangla Menu

### 5.2.2.1 Bangla Alphabet

Form Bangla menu there are many lessons to learn in Bangla with audio files. If we click in Bangla Alphabet it will show Benjon Borno or Shor Borno and whatever we want to learn we can click and our selected option will occur.

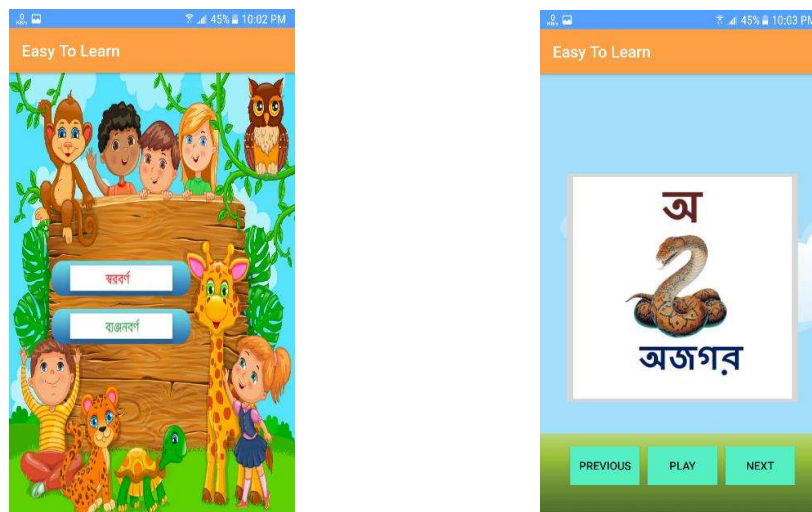


Figure 5.2.2.1: Bangla Alphabet

### 5.2.3 English Menu

Clicking English Button from Menu option – This activity will occur. From this activity children can learn Birds, Animals, Seasons, Fruits, Human Body Parts, Occupation, Vehicle, Shape, Color Names and English Letters, English Numbers, Poems and Multiplication also.

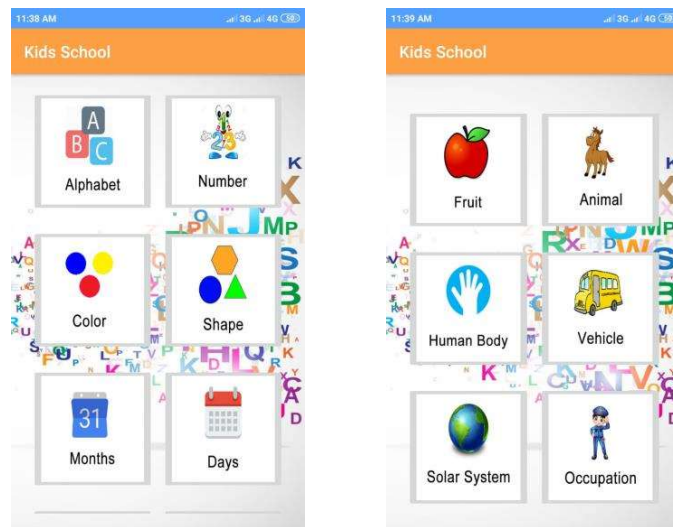


Figure 5.2.3 English Menu

#### 5.2.3.1 English Alphabet

From this English Alphabet Page Kids can learn all the alphabets in Uppercase and also in lowercase with voice messages and nice images of letters including one word. By clicking next kids can go the next letter, if kids click Play, the audio will be played again and by clicking previous button one can go back to the previous letter.



Figure 5.2.3.1: English Alphabet

### 5.2.4 More Option

More option is for children's refreshment. If we click Puzzle game we can play a puzzle game for our refreshment. In this game there is miss match parts of an image, kids have to match the parts and complete the image. It also has preview option, so that can take help by watching the original photo. And by clicking paint button, kids can draw various images whatever they want. These options are for children's entertainment and refreshment.

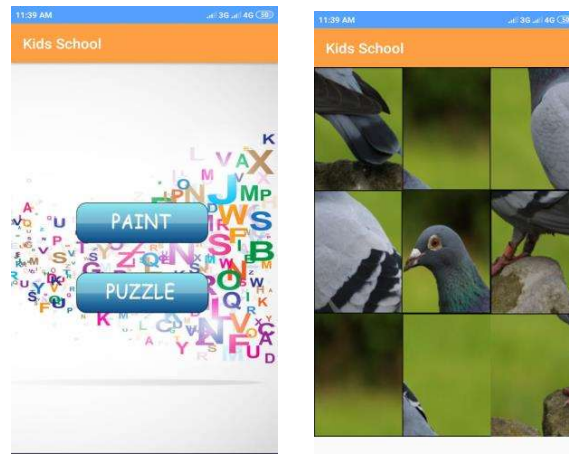


Figure 5.2.4: Paint & Puzzle

### 5.3 Tests Results and Reports

In this Application there are more than 35 activities, each and every activities i have checked few times. And my app is running very well, still i haven't got any error so far. This app is very enjoying, i hope that children's can have enjoyment while using this app also they easily can be learned.

Table 5.3.1: Beta Testing

Project Title: A Mobile App for Kids Easy Learningg									
User	Features								
	Bangla Menu Options	English Menu Options	Under- standing Images	Under- standing Audios	Next Button	Previous Button	Image Click Audio	Puzzle	Paint
1	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
4	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	Yes	Yes	No	Yes	No	No	No	Yes	Yes
7	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
10	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No
11	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

## CHAPTER 6

### CONCLUSION & FUTURE SCOPE

#### 6.1 Conclusion & Discussion:

A Mobile App for Kids Easy Learning Educational Applications main aim is to make easier the way of study. Now a days technologies are everywhere. This new generation is growing up with new technologies items. It's our responsibility to teach them with new features in a new style. I am trying to change the old style of education and trying to transform the education system in a new way with easier, entertainment and encouragingly. I want to reduce the complexity of books and notebooks and forcefully remembering every lessons. If i invent a system that the kids will run that app willingly, for getting entertainment or for getting fun. Through games they also can learn their complex lessons more easily.

Children's also get smart phone from the very beginning of his life. So new generations already become addicted to smart phones. So get rid of from wasting time in unnecessary apps, this app has been created.

Teachers can easily teach students by using this game. Parents also can educate their children's comfortably by this game. Students don't need to get bored anymore. By playing this game he or she can learn all the basic education.

I hope i can success in my mission. Kids should use this app for their basic education through fun and entertainment.

#### 6.2 Scope for further future work:

The project is still not fully completed. I have more interesting features to add in this app. In future i will include classrooms, quiz competition to check student's skill. I want to add mathematical subject to our project. So that kids also can learn addition, subtraction, division, Multiplications etc. I will add more images and more contents that will cover almost the all-important and must needed topics for a kid. Word guessing game, Word and Letter drawing option, Sentence making these facilities will be added in my next edition. And also i will try to reduce my disk space storage so that anyone can easily download our app without getting disappointment.



I have many more contents and funny kid's games still to add. In my Second edition i hopefully can say my application can be replaced by books. I must will add all those features that a children must need to know and also have to memorize. And also I am trying to make my application with the use of animation. Most of the children's are like animation, cartoons. So that I already started designing the animation graphics for my next edition. My further future plan is to reach this EASY-TO-LEARN gaming application to most of the schools over the Bangladesh. Every children's study methodology need to be updated and easier with enjoyment. I would try to deliver this application all over Bangladesh.

## **APPENDIX**

### **APPENDIX A: Project Reflection**

I have learned a lot while doing the project. It has been wonderful journey with Android development. Without giving efforts in android i cannot make this project.

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