**Motivation**:  
Now a day’s mobile games are gaining popularity [1]. Most of the developer developed games not only for entertainment purposes but also educational purpose [2]. A new generation are fond of mobile games. Therefore games can used to provide environment for grasping difficult topic in easier and efficient manner [3].

Researchers believe that mostly young students have difficulty in mathematics and often students suffer from anxiety [4].If student are taught basic concepts of mathematics with the help of games, they will learn to enjoy the subject and overcome their anxiety and cramming or memorizing habit [5]. Educational games can result in effective and easy way of learning for difficult subjects like mathematics, but unfortunately there are hardly any games developed for educational purpose [6]. Math anxiety is a very common problem among young student of Pakistan because in technology a country is far behind and our teacher are also outdated and not familiar with new advanced method of teaching [7]. Therefore, a need for building a strong foundation in mathematics using modern technology is needed to assist young learners [8].   
  
**Project Definition:**  
The project developed the mathematics game to build strong foundation of mathematics to enhance the ability of young students in stress free manner.

**Project Purpose:**

The primary aims of this project are:

1. To make mathematics fun and easy to learn  
   2. Motivates student to accept challenging task  
   3. To increase student's confidence, focus and memory  
   4. To develop interest towards mathematics

**Project Description:**

This project developed an Interactive educational game for young learner. The game save record based on logged in user like how many levels are clear or remaining. So user have sign up form which user have to fill for the first time only. According user detail which give on sign up form their game being customized and displayed on another page after login. The project consists of mathematical games with different level and awards. The games consist of different level from easy to difficult of every topic. If user have difficulty in clearing the level so they can take hint or help by watching short clips because next level depends on the current. After clearing all level of a topic the user will be rewarded.

The game also consist of leader board through which user can know their rank in world record or among friend and colleagues The color scheme of the game is quite vibrant to attract young students. The user interface is kept very simple for the better understanding of young learners and user can easily explore all feature. Also there is user guide in application from which user can learn how to use this application.

**Benefits:**

The educational games are developed in such a way that they can be evolved with the changing new feature to make it more interesting for young students. If there is an issue regarding some feature or question it can be resolved frequently within days or hours. Educational games can benefit young students in many ways like games often revolve around the utilization of memorization. Research has revealed that online games can actually help children who experience attention disorders.

The project is designed is such a way that the young student can learn mathematics in a fun and easier way. The project also includes challenging task to increase of the interest of the leaner. They will also compete with their friends or colleagues which always keep the young learner motivated and on the basis of leader board they will be rewarded.

**Scope and Limitations:**

The scope of project Mathematics Educational Game, is limited to following topic:

* Even and odd number
* Percentage
* Power and square root
* Basic operations i.e. addition, subtraction, multiplication and division.
* LCM and GCD
* Fractions
* Place Value and Decimals.
* Measurement and Data.

The limitation in this project is that you have to follow the order of the topic by completing all level of one topic then you’ll switch to another topic. The purpose of this limitation is due to interconnection of topic.

A tutorial will also be provided and FAQs will be present to solve the commonly faced problem. This mobile application is for both Android and iOS user.

**Organization of the Report:**

Chapter 1: Overview and the aims and purpose of the project.

Chapter 2: Work breakdown and the technologies and process used during project development.

Chapter 3: The project in detail and lists down the resources used while developing the project.

Chapter4: The testing and validation methods criteria followed during the development process.

Chapter5: Conclusion and suggest work which would be done in future.