



ATMIYA UNIVERSITY

(Established under the Gujarat Private University Act 11, 2018)

Yogidham Gurukul, Kalawad Road, Rajkot - 360005, Gujarat (INDIA)

Project Report

On

“YouTube Clone ”

Under subject of **MAJOR PROJECT**

B.Tech, Semester – VIII

(Department of Information Technology)

Submitted by:

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(Head of the Department)

Academic Year (2022-23)



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CANDIDATE'S DECLARATION

We hereby declare that the work presented in this project entitled “**YouTube Clone**” submitted towards completion of project in 8th **Semester** of B.Tech. (Information Technology) is an authentic record of our original work carried out under the guidance of **Prof.Piyush Kashiya** We have not submitted the matter embodied in this project for the award of any other degree.

Semester: 8th

Place: Atmiya University, Rajkot

Signature:

Anand Makasana (190004021)



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CERTIFICATE

Date:

This is to certify that the “YouTube Clone” has been carried out by **Anand** under my guidance in fulfillment of the subject Major Project in Information Technology (8th Semester) of Atmiya University, Rajkot during the academic year 2022-23.

Prof. Piyush Kashiyani Prof. Darshan Jani

(Project Guide) **(Head of the Department)**



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We even thank and appreciate to our colleague in developing the project and people who have willingly helped us out with their abilities.

Anand Makasana (190004021)

ABSTRACT

This Report describes all the requirements for the project. The purpose of this research is to provide a virtual image for the combination of both structured and unstructured information of my project “YouTube Clone”. This is an online Video streaming Platform Where User Can Able to Watch Video For Free of Cost..

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CHAPTER – 1 INTRODUCTION

1.1 Purpose

The purpose of YouTube is to provide a platform where users can upload, share, and watch videos. The platform was founded in 2005 with the goal of making it easy for people to share videos with one another, and it has since become one of the most popular websites in the world

1.2 Scope

In the fast-growing field of software engineering and development and even more rapidly growing sector of website development the future is hard to predict. In general software project is a project focusing on the creation of software. Consequently, Success can be measured by taking a look at the resulting software. In a website project, the product is a website. But and here comes the point: A website is much more than just its software. It has to provide content to become enjoyable.

1.3 Technology and tools

HTML

- The **HyperText Markup Language** or **HTML** is the standard markup language for documents designed to be displayed in a web browser.
- Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document. HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page
- HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by *tags*, written using angle brackets.

CSS (Cascading Style Sheet)

- Cascading Style Sheets (CSS)** is a style sheet language used for describing the presentation of a document written in a markup language such as HTML or XML (including XML dialects such as SVG, MathML or XHTML). CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

JAVASCRIPT

- JavaScript** , often abbreviated as **JS**, is a programming language that is one of the core technologies of the World Wide Web, alongside HTML and CSS. As of 2022, 98% of websites use JavaScript on the client side for webpage behavior, often incorporating thirdparty libraries. All major web browsers have a dedicated JavaScript engine to execute the code on users' devices.

REACT

•It is located inside app > manifests folder, **React** (also known as **React.js** or **ReactJS**) is a free and open-source front-end JavaScript library for building user interfaces based on UI components. It is maintained by Meta (formerly Facebook) and a community of individual developers and companies.^{[4][5][6]} React can be used as a base in the development of single-page, mobile, or server-rendered applications with frameworks like Next.js. However, React is only concerned with state management and rendering that state to the DOM, so creating React applications usually requires the use of additional libraries for routing, as well as certain clientside functionality.

2. PROJECT MANAGEMENT

2.1 Project Planning:

Project Planning is concerned with identifying and measuring the activities, milestones and deliverables produced by the project. Project planning is undertaken and completed sometimes even before any development activity starts. Project planning consists of following essential activities:

- Scheduling manpower and other resources needed to develop the system.
- Staff organization and staffing plans.
- Risk identification, analysis, and accurate planning.
- Estimating some of the basic attributes of the project like cost, duration and efforts.

The effectiveness of the subsequent planning activities is based on the accuracy of these estimations. • Miscellaneous plans like quality assurance plan, configuration management plan, etc.

Project management involves planning, monitoring and control of the people, process, and the events that occurs as the software evolves from a preliminary concept to an operational implementation. Cost estimation is a relative activity that is concerned with the resources required to accomplish the project plan.

2.2 Project Scheduling:

The scheduling is the peak of a planning activity, a primary component of software project management. When combined with estimation methods and risk analysis, scheduling establishes a roadmap for project management. The characteristics of the project are used to adapt an appropriate task set for doing work.

2.3 Risk Management:

Risk management consists of a series of steps that help a software development team to understand and manage uncertain problems that may arise during the course of software development and can plague a software project.

Risks are the dangerous conditions or potential problems for the system which may damage the system functionalities to very high level which would not be acceptable at any cost. So in order to make our system stable and give its 100% performance we must have identify those risks, analyze their occurrences and effects on our system and must prevent them to occur.

2.3.1 Risk Identification:

Risk identification is a first systematic attempt to specify risks to project plan, Scheduling resources, project development. It may be carried out as a team process using brainstorming approach

Technology risk:

Technical risks concern implementation, potential design, Interfacing, testing, and maintenance problems

- Database Corruptness
- Garbage Collection

People Risks:

These risks are concerns with the team and its members who are taking part in developing the system.

- Leaking an important data
- Failure of the administration
- Lack of knowledge ,
- Lack of clear product vision.
- Technical staff conflict
- Poor communication between people

Tools Risks:

These are more concerned with tools used to develop the system

- Tools containing virus.

General Risks:

General Risks are the risks, which are concerned with the mentality and resources.

- Lack of resources can cause great harm to efficiency and timely productivity.
- Rapidly changing requirements.
- Changes in requirements can cause a great harm to implementation, designing and schedule of developing the system.
- Insufficient planning and task identification.

2.3.2 Risk Analysis

“Risk analysis = risk assessment + risk management + risk communication.” Risk analysis is employed in its broadest sense to include:

Risk assessment:

Involves identifying sources of potential harm, assessing the likelihood that harm will occur and the consequences if harm does occur.

For this project It might be :- • System Crash.

Risk management:

Evaluates which risks identified in the risk assessment process require management and selects and implements the plans or actions that are required to ensure that those risks are controlled.

Precautions taken to make risks minimal are as under:-

- Periodical backups are taken to avoid major loss in case of system crash.

Risk communication:

Involves an interactive dialogue between stakeholders and risk assessors and risk managers which actively informs the other processes.

Steps taken for risk communication is as under:-

- Probability of certain risks is negotiated with client.
- All the possible risks are listed out during communication and project is developed taking care of that risks.

3. SYSTEM REQUIREMENTS STUDY

3.1 Hardware and Software Requirement

This shows minimum requirements to carry on to run this system efficiently.

3.1.1 Hardware

Requirements Server side

Hardware Requirement:

Devices	Description
Processor	Intel Core Duo 2.0 GHz or more
RAM	512 MB or more
Hard Disk	10 GB or more

Table 3.1.1.1 Server side Hardware Requirement

3.1.2 Software Requirements

<u>For which</u>	<u>Software</u>
<u>Operating System</u>	<u>Windows 7/8/10, Linux ,Mac</u>
<u>Front End</u>	<u>ReactJS</u>
_____	_____
_____	_____

Table 3.1.2.1 Software Requirement

3.1.3 Client side Requirements

<u>For which</u>	<u>Requirement</u>
<u>Android</u>	<u>Greater then 4.1</u>

Table 3.1.3.1 Client side Requirement

3.2 Constraints

3.2.1 Hardware Limitations

The major hardware limitations faced by the system are as follows:

If the appropriate hardware is not there like processor, RAM, hard disks

-The problem in processing requests of client

-If appropriate storage is not there our whole database will crash due to less storage because our main requirement is large storage.

3.2.2 Reliability Requirements

Since many users can access the server simultaneously, load on the server becomes very high. Hence, the server should be of enough high configurations. There should be high back up storage and management of huge data for overall ideas, videos , images, multiple countries, multiple user profile.

The Reliability requirements are the validations used to protect the system against one or more incorrect activities. Without proper validation of the system, the failure possibilities of it grow higher so it is must to understand the proper validation of the system and must implement them. All the required validator controls spend very good role to keep the system secure from any unauthorized or incorrect information. In all these validation actions if system found one or more entries violating validation rules then user will be warned by proper error messages and the details or the record is not going to be saved until corrections are made to them.

4. SYSTEM ANALYSIS

4.1 Study Current System

Implementation is the stage where the theoretical design is turned into a working system. The most crucial stage in achieving a new successful system and in giving confidence on the new system for the users that it will work efficiently and effectively.

The system can be implemented only after thorough testing is done and if it is found to work according to the specification.

It involves careful planning, investigation of the current system and its constraints on implementation, design of methods to achieve the change over and an evaluation of change over methods a part from planning. Two major tasks of preparing the implementation are education and training of the users and testing of the system.

The more complex the system being implemented, the more involved will be the systems analysis and design effort required just for implementation.

The implementation phase comprises of several activities. The required hardware and software acquisition is carried out. The system may require some software to be developed. For this, programs are written and tested. The user then changes over to his new fully tested system and the old system is discontinued.

4.2 Problem and weakness of current system

- Inconsistency in data entry and generate errors
- System is fully dependent on skilled individuals
- Time consuming and costly to produce reports
- Entry of false information
- Duplication of data entry

4.3 Requirements of New System

4.3.1 User Requirements:

The user requirement for this system is to make the system fast, flexible, less prone to error, reduce expenses and save the time.

4.3.2 System Requirements:

- **Functional System Requirement:**

This section gives a functional requirement that applicable to the Gaming application system. In this gaming application there is no need for the log in requirements.

- **Non-Functional System Requirements:**

- i. EFFICIENCY REQUIREMENT:**

When a game android application implemented user can play the game

- ii. RELIABILITY REQUIREMENT:**

The system should provide a reliable environment to users. All actions should be performed without any errors.

- iii. USABILITY REQUIREMENT:**

The android application is designed for user friendly environment and ease of use.

- iv. IMPLEMENTATION REQUIREMENT:**

Implementation of the system using xml in front end with java as back end and it will be used for database connectivity. Responsive android designing is used for making the application compatible for any type of screen.

- v. DELIVERY REQUIREMENT:**

The whole system is expected to be delivered in four months of time with a weekly evaluation by the project guide.

4.4 Feasibility Study

The feasibility study of any system is mainly intended to study and analyze the proposed system and to decide whether the system under consideration will be viable or not after implementation. That is it determines the usability of the project after deployment. To come to result a set of query is answered keeping the efficiency of the software and its impact on the domain for which it was developed.

Technical Feasibility:

In technical feasibility, we study all technical issues regarding the proposed system. It is mainly concerned with the specifications of the equipment and the software, which successfully satisfies the end-user's requirement. The technical needs of the system may vary accordingly but include:

- The feasibility to produce outputs in a given time.
- Response time under certain conditions.

- Ability to process a certain volume of the transaction at a particular speed.
- Facility to communicate data

4.5 Selection of Hardware and Software and Justification

The configuration of the existing systems is:

Processor : Pentium III, 500 MHz (or above) Memory : 128 MB (or above)
Secondary Storage : 20 GB (or above)

For Software there are following alternatives: Operating System : Window 9/8/10, 2000, XP, NT

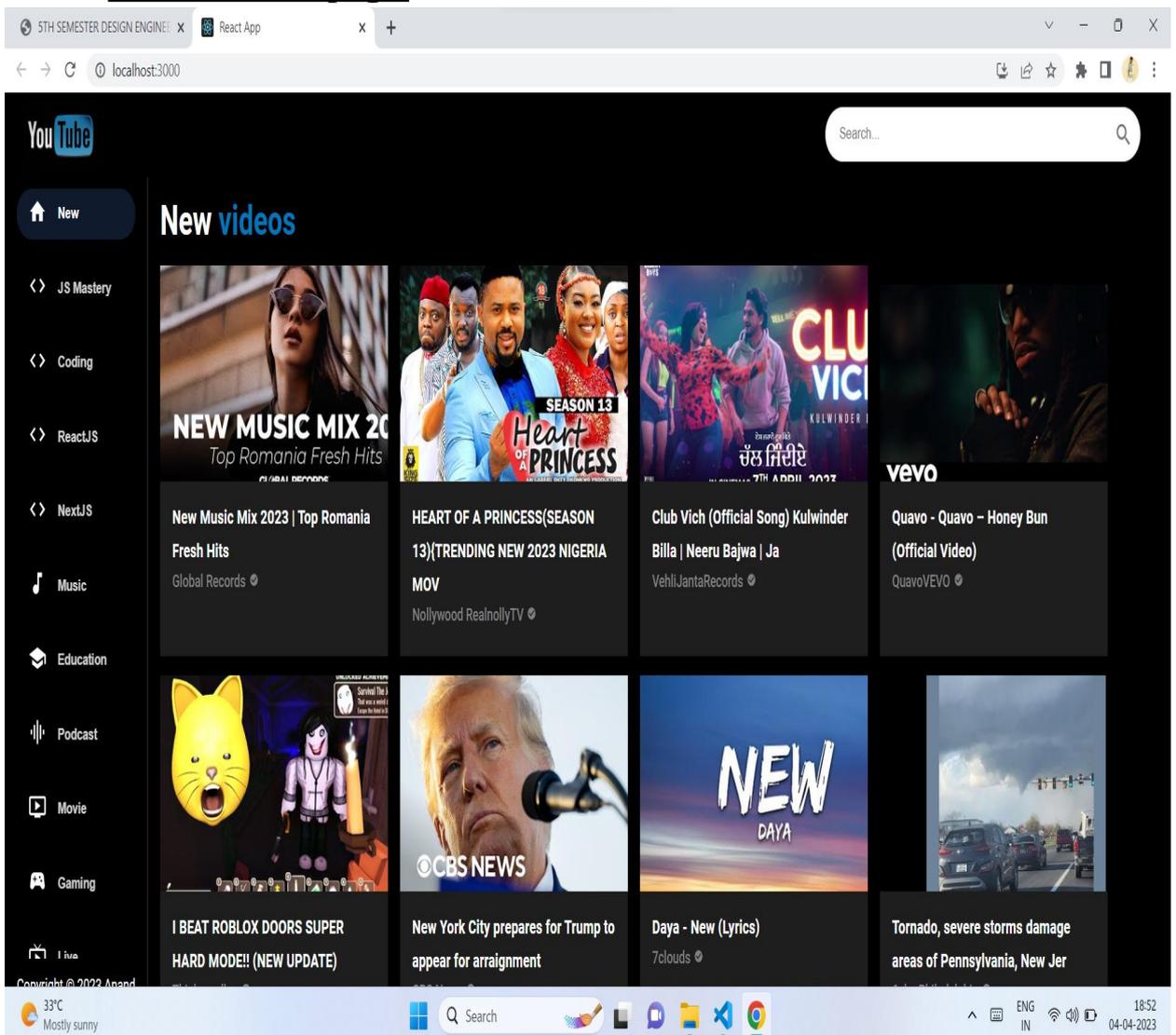
Development tools : Material UI,Rapid Api

Documentation tool : MS-Word

5. System Design

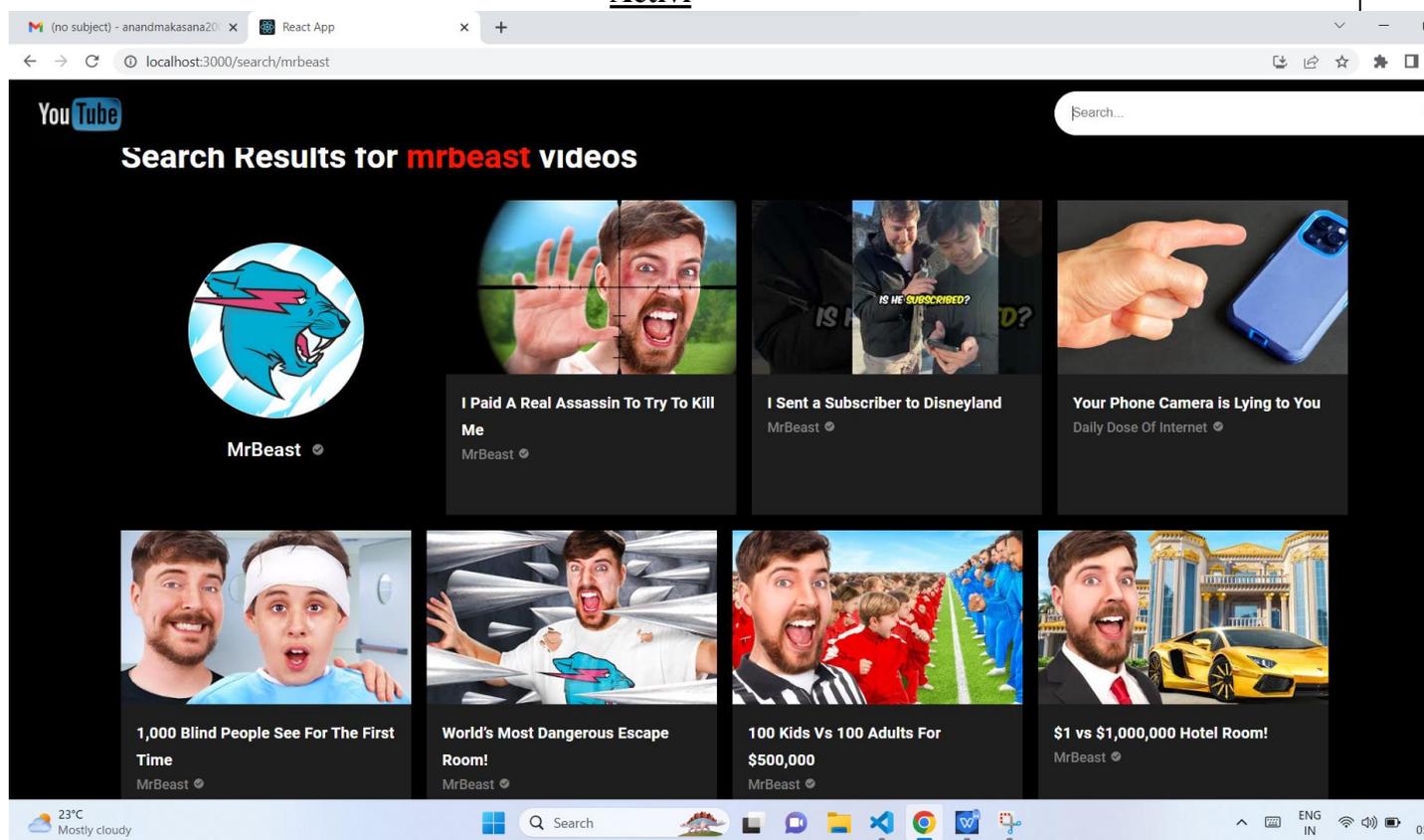
5.1 Input /output interface

- Website home page:



- Main Activity:

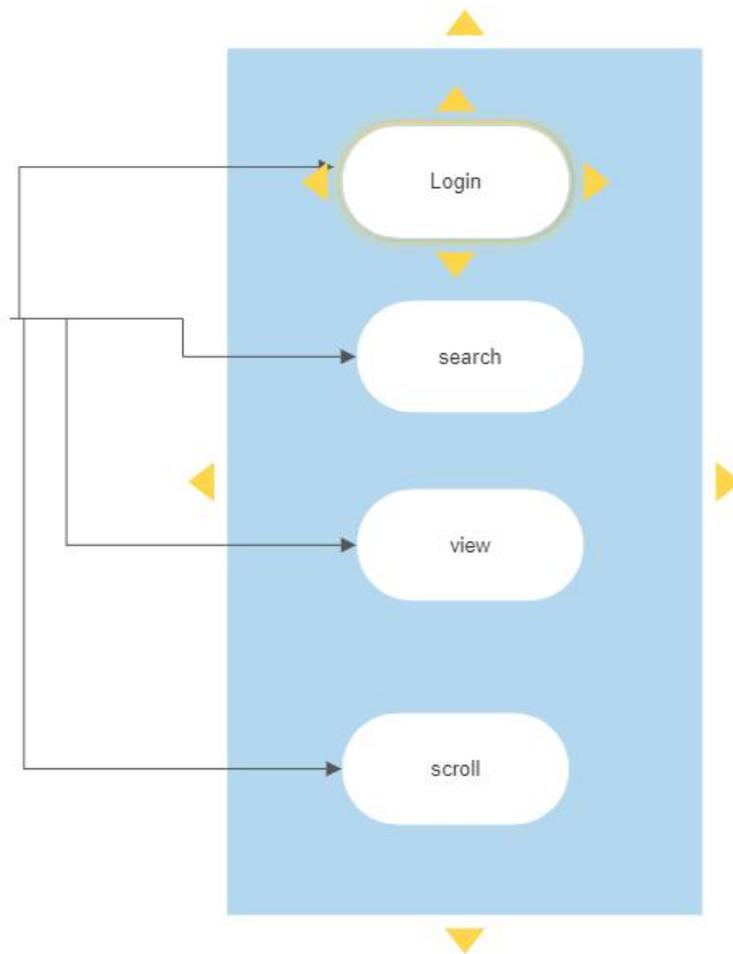
**Figure 5.1.2: Main
Activi**



ty

- Search Keyword:

5.2.1 Use Case Diagram



6. Code Implementation

6.1 Implementation Environment

Challenges identified for successful design and implementation of this project are dominated by:

- Complexity, reliability/availability, transparent data access. The project was a result of a group consensus. The team was having two members. The team was guided by project manager. The team structure depends on the management style of the organization, the no. of people in the team, their skill levels and the problem difficulty.

6.2 Program/Module Specification

- System GUI must be as simple and user friendly as anyone can use it. At front side we implemented Player Name Page to access the game.
- A Session is maintained throughout the system when a particular user enters their names into the system.

6.3 Coding Standards

- Normally, good software development organization requires their programmers to maintain some well-defined and standard style of coding called coding standard.

6.3.1 Comment Standards:

- The comment should describe what is happening, how it is being done, what parameters mean, which global are used and which are modified, and any registration or bugs.

The standards I have followed are:

- Comment may also be used to explain individual sections or lines of codes to easily get access and easily review or manage the classes or properties for the pages.
- Inline comments should be made with the `//`. Comment style and should be indented at the same level as the code described.
- For multiple line comments we write between `/* */`.

7. Testing

7.1 Testing Strategy

A strategy for software testing integrates software test case design method into a well-planned series of steps that result in the successful construction of the software. The strategy provides the roadmap that describes the steps to be conducted as a part of testing, then these steps are planned and then undertaken, and how much effort, time and resource will be required.

7.2 Testing Method

7.2.1 Unit Testing

The unit testing is meant for testing smallest unit of software. There are two approaches namely bottom-up and top-down. In bottom up approach the last module is tested and then moving towards the first module while top down approach reverses the action. In present work we opt for the first one. The bottom up approach for the current project is carried out as shown in.

7.2.2 Validation Testing

After the integration testing software is completely assembled as a package, interfacing error have been uncovered and corrected, and then validation testing may begin. Validation can be defined in many ways but a simple definition is what a validation succeeds when software functions in a manner that can be reasonably accepted by the user.

7.2.3 Integration Testing

The integration testing is meant to test all the modules simultaneously because it is possible that all the modules may function correctly when tested individually. But they may not work altogether and may lead to unexpected outcome.

8. Limitations and Future Enhancement

8.1 Limitations:

Though I tried my best in developing this system but as limitations are mere parts of any System so are of my system. Some limitations of game application system are as under: • Low storage capacity.

8.2 Future Enhancement:

There is always a scope for enhancements in any developed system, especially when our nature of the project is iterative waterfall which allows us to rethink on the method of development to adopt changes in the project. Below mentioned are some of the changes possible in the future to increase the adaptability, and efficiency of the system.

- More attractive GUI (Graphical user interface).
- Communication options like chat.
- Online payment options for game coins.

9. Conclusion Youtube is A Platform for upload videos .10.

Reference

- <https://react.dev/> React Official Website
- <https://mui.com/> Material UI