GLA University, Mathura

MINI PROJECT - 2
(2020-2021)

MID-TERM REPORT

Project Name/Title: "GamingZone"

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CONTENTS

ABSTRACT

Problem Statement: -

What we are creating?

We are creating “A real-time Live Online Gaming website.”

The problem statement is to propose a system that is meant to give more easiness to the users that they can easily access to the games. Also, to provide various games options for a user. To chat box is also provided to interact with other players while gaming. And the interface for the users to be quite entertaining and engaging. Menu is interactive and very easy to access throughout the gameplay and once the game is in playing mode, everything a player needs will be clearly visible on the screen.

As technology advances internet is becoming ever popular. Website has become an essential part. The advantage of browser-based applications is that they can run on any device with some basic requirements.

What is our idea about?

In today’s era, we all are aware of our daily changing requirements and the need to entertain as in this world of full of tasks and jobs.

Gaming is all about virtually interacting to an interface that can give pleasure without even being face-to-face but through interface and mode of deployment, they display or give data about to be shared. In new emerging games we can even share information and can be connected to more people like us.

Online Gaming via this interface make us elevate from being digitally literate to digitally

fluent, collaborate using appropriate virtual tools and system and that are cost-effective and environment friendly too.

So, putting our efforts into this application, we are going to create “GamingZone”.

Motivation Behind:

Gaming gives relaxation and enjoyment to every user. In this busy world, gaming is the solution to release the depression and tension. Social networking with gaming is a nice combo for any user who feels relaxed in playing games. The requirements specified in this document will be used for designing all the aspects and components of the game. The document will be updated as the requirements grow and change over the design and development process.

INTRODUCTION

This Full Stack Project "GamingZone" has to be submitted in partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering at GLA University, Mathura supervised by Mr. Pankaj Kapoor. This project has to be completed in approximately three months and has to be executed in modules,

The general reason is to portray a complete and detailed picture of the overall process of creating to executing the games. Although providing a broad description of the overall decisional process, the intent is to focus on the actual playing phase and interface.

This project is aimed at developing an full-stack we application that depicts online gaming developed using various full stack technologies.

Using this web application, we can improve the efficiency of our devices and we also will not have any work overload as it does not require any installation. Online gaming is one among the applications to enhance the gaming performance without disturbing any system performance.

Objectives:

- The website gives all the information about the games that may serve as a better entertainer.
- It provides the facility to the customer who wants to wants to play games at any point of time.
- It provides facility to the customer of playing games without even downloading or installing the game.

IMPLEMENTATION DETAILS

According to our idea of creating a Real-Time Live Online Web Application named "GamingZone" is to establish productively and trusting virtual working relationships.

A review of the articles and business reports related to consumer's gaming decision making process, in both offline and online retail channels. The intent was to acquire a general overview of gaming, in what pertains to this dissertation and subsequent research questions, and as such the focus relies mostly on the decisional phase and influencing pre-decisional phase of the gaming decision making process. Based on the outcome of the literature review performed, a conceptual framework that guided the design and performance of the empirical studies, aiming at providing answers to the proposed research questions, is also presented.

The design making process in traditional retail environments:

- ✓ A user plays typically a response to a problem or need, and once a user realizes this, he or she undergoes a series of steps until his or her need is satisfied.
- ✓ When analyzing the particular case of online gaming, factors other than those already reviewed come into play and should therefore be taken into account.
- ✓ This model is based on the central role occupied by traditional design making processes in the online shopping environment, recognizing the existence of particular moderating and interacting effects.

SYSTEM REQUIREMENTS

SOFTWARE REQUIREMENTS:-

- Backend – NodeJS, React.
- Technology Used – Full Stack Web Development.
- Database – MongoDB.
- Frontend Design – HTML, CSS, JavaScript.
- Operating System - Windows 7 or above/Linux/MacOS

HARDWARE REQUIREMENTS:-

- RAM - 4GB or above
- Processor - intel i3 or above / Ryzen3 or above
- Hard Disk - 40GB or above

PROJECT PROGRESS

We have completed our part one with 20% of the total project and moving on the next part of development of various Games and the implementing them in Homepage.

- Done with the Homepage activity which holds the logo, the description and the interface of web app.
- Secondly, the homepage which has been completed has further more divisions into following parts.
  - ✓ Header - It has the navigation bar with the diff options that are aligned to right side and the logo of app aligned to left side.
  - ✓ Body – Main container that holds an image and some description about the website.
  - ✓ Footer – It consists the various social links some navigation button and a short description about the project as well as about the developers.
- Then we completed the active and live clock with the navigation bar on each of our window.
- We will further move on the game development which enables the user to play using his/her profile and have also worked on the chat feature that allows the user to connect another user while playing

WORKING METHODOLOGY

Agile Model: -

Agile model is selected for the project. We are planning to implement the system with basic facilities only. So many future enhancements are possible with this model. Agile model can satisfy this requirement efficiently. Since it follows the plan-do-check-act for improvement, backtracking can do easily in Agile model.

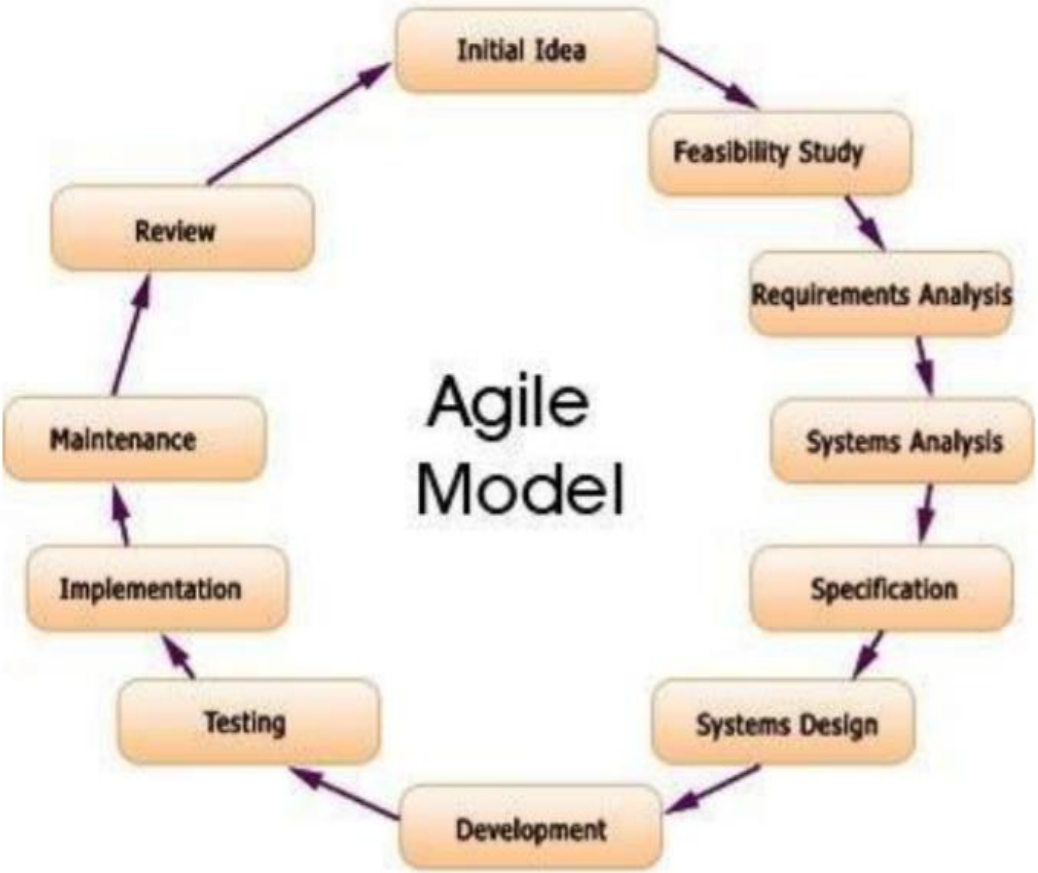

Figure: Agile Model

Basic Working Model:

Agile modelling is a practice-based methodology for effective modelling and documentation of software-based systems.

This can be applied on a software development project in an effective and light-weight manner.

With an Agile Model Driven Development (AMDD) approach enables a high level modelling at the beginning of a project to understand the scope and potential architecture of the system, and then during development iterations it requires modelling as part of iteration planning activities and then requires just in time (JIT) model storming approach.

MANIFESTO FOR AGILE SOFTWARE DEVELOPMENT:

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan
- Requirements evolve but time scale is fixed
- Testing is integrated throughout the project life

WHY AGILE?

- Customer satisfaction by rapid, continuous delivery of useful software.
- People and interactions are emphasized rather than process and tools.
- Continuous attention to technical excellence and good design.
- Regular adaption to changing circumstances.
- Even late changes in requirements are welcomed.
- Face-to-face conversation is the best form of communication.
- Customers, developers and testers constantly interact with each other.
- Working software is delivered frequently (weeks rather than months).

AGILE SOLVES ISSUES LIKE:

- Resource wastage
- Costly modifications
- Unclear Requirements

SOFTWARE TESTING

Once source code has been generated, software must be tested to uncover as many errors as possible before delivery. It is very important to work the system successfully and achieve high quality of software. Testing includes designing a series of test cases that have a high likelihood of finding errors by applying software-testing techniques.

System testing makes logical assumptions that if all the parts of the system are correct, the goal will be successfully achieved. The system should be checked logically. Validations and cross checks should be there. Avoid duplications of record that cause redundancy of data. In other Words, Testing is the process of evaluating a system or its component(s) with the intent to find whether it satisfies the specified requirements or not. It is executing a system in order to identify any gaps, errors, or missing requirements in contrary to the actual requirements

The preliminary goal of implementation is to write source code and internal documentation so that conformance of the code to its specifications can be easily verified, and so that debugging, testing and modifications are eased.

This goal can be achieved by making the source code as clear and straightforward as possible. Simplicity, clarity and elegance are the hallmark of good programs, obscurity, cleverness, and complexity are indications of inadequate design and misdirected thinking. Source code clarity is enhanced by structured coding techniques, by good coding style, by, appropriate supporting documents, by good internal comments, and by feature provided in modern programming languages.

The implementation team should be provided with a well-defined set of software requirement, an architectural design specification, and a detailed design description. Each team member must understand the objectives of implementation.

TERMINOLOGY

- Error The term error is used in two ways. It refers to the difference between the actual output of software and the correct output, in this interpretation, error is essential a measure of the difference between actual and ideal. Error is also to use to refer to human action that result in software containing a defect or fault.
- Fault is a condition that causes to fail in performing its required function. A fault is a basic reason for software malfunction and is synonymous with the commonly used term Bug.
- Failure is the inability of a system or component to perform a required function according to its specifications. A software failure occurs if the behavior of the software is the different from the specified behavior. Failure may be caused due to functional or performance reasons.

TYPES OF TESTING

- **Unit Testing** The term unit testing comprises the sets of tests performed by an individual programmer prior to integration of the unit into a larger system. A program unit is usually small enough that the programmer who developed it can test it in great detail, and certainly in greater detail than will be possible when the unit is integrated into an evolving software product. In the unit testing the programs are tested separately, independent of each other. Since the check is done at the program level, it is also called program teasing.
- **Module Testing** A module and encapsulates related component. So, can be tested without other system module.

- **Subsystem Testing** It may be independently design and implemented common problems are sub-system interface mistake in this checking we contention it. There are four categories of tests that a programmer will typically perform on a program unit.

- **Functional Test** Functional test cases involve exercising the code with Nominal input values for which expected results are known; as well as boundary values (minimum values, maximum values and values on and just outside the functional boundaries) and special values.

- **Performance Test Performance** testing determines the amount of execution time spent in various parts of the unit, program throughput, response time, and device utilization by the program unit. A certain amount of avoid expending too much effort on fine-tuning of a program unit that contributes little to the overall performance of the entire system. Performance testing is most productive at the subsystem and system levels.

- **Stress Test** Stress test are those designed to intentionally break the unit. A great deal can be learned about the strengths and limitations of a program by examining the manner in which a program unit breaks.

- **Structure Test** are concerned with exercising the internal logic of a program and traversing particular execution paths. Some authors refer collectively to functional performance and stress testing as “black box” testing. While structure testing is referred to as “white box” or “glass box” testing. The major activities in structural testing are deciding which path to exercise, deriving test date to exercise those paths, determining the test coverage criterion to be used, executing the test, and measuring the test coverage achieved when the test cases are exercised.

CONCLUSION

The project will be done successfully as specified by the requirements. The implementation and testing will be done in a step-by-step manner. Each module will be developed and tested individually to obtain the required output in the desired form. On our way working on this interesting project, we will learn many things. While working on this project, we will get valuable experience on the stages involved while developing any web application that could be useful while working for a professional company.

During the duration of this project, we will learn the various things through the implementation and testing of the project. The future improvements can be made in certain areas of the project. There is scope for extending the project to incorporate more features by including more games with multiplayer option. Advanced messaging system with notification, etc. The process model selected is Agile model, so that the new options can be implemented to the same design in later point of time. The updating of the application is an important feature of agile process model designs.

We have made this web-based application GamingZone using the FullStack front-end technology HTML, CSS, JavaScript and back-end also include with React, NodeJS and MongoDB. Whole of our project gives the idea to Gamers to explore their wanderlust. In this application we have showcased each and every detail that the gamer wishes to know before taking the game.

We have developed six games for six different type of people with varied visions of gaming. Each game provides the facility to play the game in their own way and style. We may also include the ode to chat of connecting people while playing the games. And this we have made all the effort to give GamingZone the look of the perfect website.

REFERENCES

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- https://www.pexels.com/
- https://www.beta-labs.in/
- https://www.w3schools.com/

GitHub link to Source Repository:

https://github.com/manishgautam30/GamingZone