**SYNOPSIS**

**1.INTRODUCTION**

This project is an extension to our project **KRISHNA SAFARI-A 3D GAME** for android users which was done in the fifth semester of our BCA program.

In today’s world, people are running behind their desires and dreams. They just want to earn money at any cost, even if they have to compromise on their morals and self esteem. The various factors such as corruption, selfishness, materialistic thinking and money mindedness have made this world a wicked place, which is continuously moving towards the end of this vicious circle. One of the main reasons behind the same is the increasing gap between this so called “modern generation” and Indian culture and mythology. This ignited the idea for developing a game based on the life of a colossus from the past, who has shown the correct path to the humanity earlier in the times of Varnveda i.e. ”***LORD KRISHNA***”.

The almighty ***Krishna*** possesses all opulent qualities in the infinite degree. Being naughty in childhood, to being brave and fighting against the evil powers of that time, makes his life a bunch of inspirational events. He was one such fine leader, who was blessed with the virtue of simplicity, intelligence, determination, forgiveness and love. He was the protector of the masses. All these inspiring characteristics and events in Lord Krishna’s life led to the thought of creating a game, which could project out all of these.

The game ***Krishna Safari*** will be designed to bring alive the various events in Lord Krishna’s life. In this, a player gets a chance of playing the entire game by being ***Lord Krishna*** himself and therefore understanding and experiencing something of what life in the spiritual world of ***Lord Krishna*** would be, when we go there.

The thought behind choosing specifically a game to demonstrate the life of ***Lord Krishna*** is that games are interesting to play. Game-based learning facilitates the process of meaning making, i.e. understanding the implication among facts. The simulation of the same era can be projected in a 3D game. It will help the user in skill building, getting motivated, attentive and most importantly transmission of knowledge.

Unity 3D, a cross-platform open source game creation system, which includes a game engine and integrated development environment (IDE) will be used for designing and developing the complete game. Character models and object models will be designed in Blender and Make human as they make the task of prototyping photo realistic humanoids very easy. For the database connectivity Oracle is going to be used.

In this game, a player will need to cross certain levels to win. These levels will be based on the facts related to Lord Krishna’s life. The transition of levels will be based on a player’s skills. He can switch to the next level only after completing the previous one. If he is not successful in clearing any particular level, the next level remains locked. All of these levels will challenge the player’s gaming as well as mental skills. A player needs to be focused while playing the game. This game can be played all over the world.

As the game is going to be based on the various episodes of Lord Krishna’s life, it’s going to teach the players a chapter of courage, honesty, morals and selflessness throughout the whole gaming experience, taking them closer to Indian culture and mythology.

**DESCRIPTION OF VARIOUS LEVELS**

**LEVEL 1**

To safe Lord Krishna’s life from his uncle Kansa, Vasudeva took little Krishna to Gokul village to Nanda’s home. To do so, he has to cross storming Yamuna River. So in this level, a player has to help Vasudeva to safely rescue baby Krishna.

***FORMAT:***

* First level is divided into four laps.
* In every lap, vasudeva ji has to cross ten wooden logs.
* Multiplier will increase by 1x after every lap.
* Touch screen to increase speed.
* Collect snake ball after 2nd lap and get the help of sheshnaga.
* Finish game in less than 125 seconds to get time bonus.

**LEvel 2**

In this level help Krishna to collect pitchers filled with butter as much as he can in the given time, so as to finish the level.

***FORMAT:***

* Swipe on the pitchers to crack them.
* Hold yourself from swiping on the bombs.
* For each pitcher cracked, a player gets +1 point and for each bomb exploded, -2 points are given.
* Crack more than 20 pitchers in 20 seconds to finish the level

**2.OBJECTIVE**

The main objective of the game ***Krishna Safari*** is to teach people that ”burai par hamesha acchai ki jeet hoti hai” i.e. in a fight between good and evil, good always win. The game will be designed in such a way that the entire Krishna saga can be projected as a series of levels, which are not only interesting to play but got various faces of life, helping a person to develop as an individual. Some of the specific objectives are observed as below:

* 1. **Promoting Indian mythology**: As the game is entirely based on Lord Krishna’s life, and promotes the same so as to make its players to get a chance to know the Indian cultures and traditions and hence learn them side by side.
  2. **Challenging and improving mental and gaming skills**: The various level in the game will be designed in such a way that they will challenge the gaming skills of the player.
  3. **Competition to the players of all ages**: The game doesn’t target players of any specific age group. It will design in such a way that, players of all ages can play it.
  4. **Self development**: The game will teach some moral values of life, which will help in self development of the player as an individual.
  5. **Transmission of knowledge**: A player will find many a philosophies of life by playing this game and as more and more players will play this game, this cycle of knowledge will expand.
  6. **Skill development:** Skills like focus, speed, hand-eye coordination and concentration can be developed by playing this game.
  7. **Providing a joyful learning experience**: Along with the knowledge, the game will also be fun to play. The various levels will be designed so that a player finds them interesting and amusing.

**3. FEASIBILITY STUDY**

* 1. **Economical Feasibility**

The project includes the use of open source softwares such as Unity3d, Blender and Makehuman. The game can be played on any version of Android with Graphics Driver and Audio Driver. Therefore, this project is economically feasible.

* 1. **Technical Feasibility**

All the inventories like interfaces and characters will be made by using softwares such as Unity3d, Blender, Makehuman and Android. These softwares are open source softwares and are easy to use. The task of prototyping of humanoid and creation of a 3D environment is made simpler by these softwares. Therefore, this project is technically feasible.

* 1. **Legal Feasibility**

The project ***Krishna Safari*** is legally feasible. It uses only the open source software and easily available hardware such as Windows Operating System and Android Operating System. The characters used in this game are not copied from anywhere. They have been created on the basis of imagination. All the scenes which will be designed in the game are based on the real events of Lord Krishna’s Life. If there is any kind similarity to any person living or dead, it is purely coincidental. The development of this game doesn’t use the copyright of others. Legally feasible. The project doesn’t conflicts any legal requirements which make it.

**4. METHODOLOGY**

The methodology of this project provides a detailed overview of all the guidelines, practices, procedures and working methods that will be followed in the development of the game at various levels.

* 1. **Surveying current scenario**: Now days, people are busy in their own world and forgetting the importance of Indian culture and mythology. This led the idea to create something which could take them a few steps close to the Indian mythology. Therefore, we will be designing a game which could which will be interesting to play and will help the player to develop himself as an individual, taking him a step close to Indian culture.
  2. **Game story**: A leader from the Indian mythology whose life journey was interesting and inspiring was chosen. This led to the decision of designing the plot of the entire game on the life of Lord Krishna. His life is full with inspiring and motivating events. The game will be design so as to bring alive all of them one by one.
  3. **Softwares**: Unity 3D is organized, easily accessible software which makes tasks like modeling, rigging, animation etc easy for the developer. Blender provides Photorealistic Rendering, Fast Modeling, Realistic Materials, Fast Rigging and various animation toolset. Makehuman makes prototyping of humanoids very easy, simple and interesting. All these features led to the usage of the above mentioned softwares for the development of the game.
  4. **Feasibility study**: A feasibility study was conducted on various aspects to check whether our project is feasible or not. This study led to a conclusion that the product is technically, economically and legally feasible.
  5. **Designing characters and Elements for the game:** The characters and elements will be made in Blender and Makehuman. The design and structure of the characters and models will be based on the various incidences of Lord Krishna’s Life.
  6. **Conceptualizing Scenes:** Unity3d software will be used to make scenes. The scenes will be designed in such a way so that they can to showcase the era belonging to Lord Krishna’s life exactly as it was.
  7. **Positioning Elements and Characters:** All the scenes, characters and object models made will be positioned according to their requirement in this step.
  8. **Technical stride:**
* **Animation:** Animation to the characters and elements in scenes will be added in this step. This will be done by using unity’s animation window.
* **Audio:** Audio will be added in this step. The audio will make the scene more realistic and interesting.
* **Scripting to Scenes:** The script can be added to the scenes using unity’s monoscripting feature. The language followed will be unity’s JavaScript. The script will be added for the player’s action and elements movement.
* **Connection between Scenes:** In this last step, all the scenes so made will be connected together to form a game that will attract the player’s attention and representing the whole saga of Lord Krishna’s life.
  1. **Switching between the levels:** The next level will be unlocked only if the previous one is finished. If the player is not successful in completing any particular level, the succeeding level will remain locked and it cannot be played.
  2. **Connectivity to database:** Oracle database will be used for data connectivity. Records of all the players are going to be stored in Oracle database.

**5.PROPOSED TECHNOLOGY**

A wide range of softwares will be used for development of this game like software for designing models, for designing scenes, conceptualizing the whole game and for database connectivity. The softwares that will be used are listed below:

**5.1 UNITY 3D:**

Unity 3D is a [cross-platform](http://en.wikipedia.org/wiki/Cross-platform) [game creation system](http://en.wikipedia.org/wiki/Game_creation_system) developed by [Unity Technologies](http://en.wikipedia.org/wiki/Unity_Technologies), including a [game engine](http://en.wikipedia.org/wiki/Game_engine) and [integrated development environment](http://en.wikipedia.org/wiki/Integrated_development_environment) (IDE). With an emphasis on portability, the graphics engine targets the following APIs: [Direct3D](http://en.wikipedia.org/wiki/Microsoft_Direct3D) on Windows and Xbox 360; [OpenGL](http://en.wikipedia.org/wiki/OpenGL) on Mac, Windows, and Linux; [OpenGL ES](http://en.wikipedia.org/wiki/OpenGL_ES) on Android and iOS; and proprietary APIs on [video game consoles](http://en.wikipedia.org/wiki/Video_game_console).

**5.2 BLENDER:**

Blender is a free and open source 3D animation suite. It supports the entirety of the 3D pipeline—modeling, rigging, animation, simulation, rendering, compositing and motion tracking, even video editing and game creation. Blender is well suited to individuals and small studios who benefit from its unified pipeline and responsive development process. Blender is cross-platform and runs equally well on Linux, Windows and Macintosh computers. Its interface uses OpenGL to provide a consistent experience.

**5.3 MAKEHUMAN:**

Makehuman is an [open source](http://en.wikipedia.org/wiki/FOSS) [3D computer graphics software](http://en.wikipedia.org/wiki/3D_computer_graphics_software) middleware designed for the prototyping of photo realistic humanoids. It uses a very simple GUI in order to access and easily handle hundreds of morphing. Makehuman uses simple sliders to alter parameters with which you can create many different types of people. Generated models are completely free, released under the most liberal license available in the world.

**5.4 ORACLE:**

Oracle database (Oracle DB) is a relational database management system (RDBMS) from the Oracle Corporation. The system is built around a relational database framework in which data objects may be directly accessed by users (or an application front end) through structured query language (SQL).

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