Roventure- An Endless Runner Game

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Abstract:

Endless Runners feature a perpetually moving character that players should navigate around obstacles. These games might feature levels with a beginning and end, or they will ne'er finish, however the most issue may be a character that ne'er stops moving, timing, and manual dexterity. The most object of the bulk of Endless Runners is to urge as much as attainable in an exceedingly level. Several Endless Runner games frequently generate an infinite quantity of 1 level. All Endless Runners feature confirmed momentum. We explore the consequences of pace of an endless runner game on user performance, preference, enjoyment, and engagement in stationary Platform settings (while walking).

Index Terms— Endless runner, Roventure, Unity3D, real time, intensive competitiveness, assets.

I. Introduction

Along with the growth of digital technology, game industries have entered a stage of rapid development. We are developing a game application Roventure.

'Roventure' is an endless runner game application. For this project, we will use the Unity engine to create an endless running game. Endless runners are those games that have the character running forward endlessly and then throw obstacles at them along the way for them to hurdle, punch and dodge.

The proposed game system is based on Runner, a single player running game platform Runner is a running game, in which the player character is continuously moving forward through an endless game world. Two important elements in the game are traps and coins. The player has to avoid traps that lead to game over. The one and only goal of this game is to go as far as possible, before the character dies, to raise the score. The score is counted as the distance that the character travels, and while running, the player can also collect coins to increase the score. The player only has one life; if the player's character dies, the game is over.

- ***Goals or Objectives:***

- To create a far more immersive experience for the gamer.
- To Identify the Level of Knowledge Necessary to Achieve Gaming Development using Unity3D.
- To provide gaming experience and satisfaction to the user.

II. Literature Survey

"Enhance Physical and Mental Well-Being of Game players in an Endless Running Game"-The proposed game system is based on Runner, a single player running game platform developed and maintained by Intelligent Computer Entertainment Laboratory, Ritsumeikan University. Runner is a running game, in which the player character is continuously moving forward through an endless game world. Two important elements in the game are traps and coins. The player has to avoid traps that lead to game over. The one and only goal of this game is to go as far as possible, before the character dies, to raise the score. The score is counted as the distance that the character travels, and while running, the player can also collect coins to increase the score. The player only has one life; if the player's character dies, the game is over. [1]

"A Generic Formal Specification of an Infinite Runner Games for Handheld Devices Using Z-Notation"- Computer games are also a prominent outcome of this trend. Computer games are rule-based formal systems that are developed for entertainment, educational and sometimes for medical purposes. The Gaming industry is actively participating in economic growth in the market. The exponential increase has been observed in economic growth of the gaming industry. Over the last decade, smartphones have become an essential device in everyday life and work. Its processing power and touchscreen have furthermore enabled a new type of gaming experience. Runner-ups of the infinite runner games are limitless until the runner finds some interruptions or some piece of an obstacle. The runner without pauses both varies constantly and has no stages or levels of completion, they are called games that are characterized by being a linear game of regular degree. Streets, roads, terrain, and subway are game objects/paths for these games. [2]

"Subway Surfers"- Subway Surfers is an endless runner mobile game co-developed by Kiloo and SYBO Games, private companies based in Denmark. It is

available on Android, iOS, Kindle, and Windows Phone platforms and uses the Unity game engine. In the game, players take the role of young graffiti artists who, upon being caught in the act of "tagging" a metro railway site, run through the railroad tracks to escape from the inspector and his dog. [3].

"Temple Run"- Temple Run is a 3D endless running video game. In Temple Run the character will embark on an adventure to seek an ancient and valuable golden idol from an Aztec temple. They will not realize that the temple is inhabited by a family of demonic monkeys who want to devour them. As the game is an endless running game, there is no end to the temple. Coins can also be bought by the player through in-app purchases with payments of actual money. When the player needs to turn left or right, the touchscreen can be swiped in the corresponding direction. If the player wishes to jump over an object, the screen can be swiped upwards; if the player wishes to slide under an object, the screen can be swiped downwards. [4]

"Sonic Dash"- Sonic Dash is an endless runner, similar to Temple Run and Rayman Jungle Run.Players are able to share and compete for position on leaderboards. [5]

"Super Mario Run"- Super Mario Run plays as a side-scrolling, auto-runner platform game. The plot begins with Mario accepting Princess Peach's invitation to her castle, only to witness Bowser kidnapping the Princess and destroying the Mushroom Kingdom, tasking Mario to undo his actions. Mario automatically runs from left to right and jumps on his own to clear small gaps or obstacles. The player can control Mario by tapping the touch screen to make him jump over larger obstacles; the longer the screen is touched, the higher he jumps. Like other Super Mario games, the player must maneuver Mario over gaps, onto enemies, and into coins to collect them. [6]

III. Proposed Work

The purpose of our project is to develop an endless runner game. Our project will be a Unity based endless game developed using C# as a programming language. Further we will get it into an android application to provide easy hands on experience to players.

A. Flow of the System:

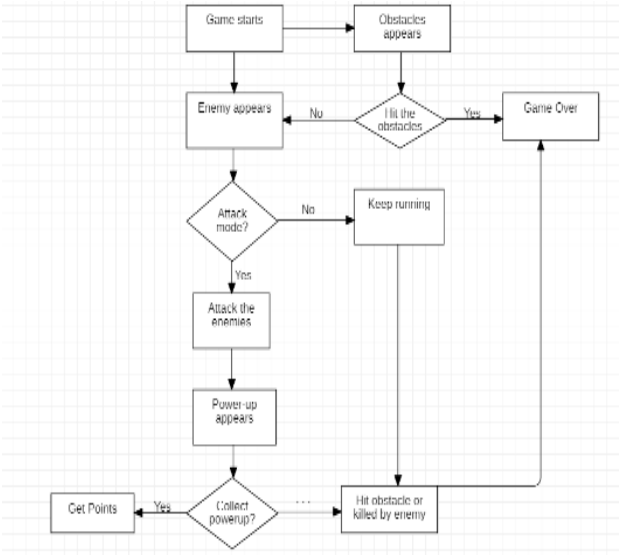

Fig.1. System Flow Diagram

Given is the flow of our project. As a ROVENTURE is an endless runner game, so he needs to avoid obstacles. The enemy will appear and it would be in attack mode so the character must be in attack mode and need to rescue from there. If a character hit the obstacle, then the game would end.

B. Functional Modules:

The whole system is divided into the two modules:

1) Creating 3D Modules /Assets using AutoDesk 3D Max:

Game writers, designers, and character artists all work together to develop fun and believable characters. A good video game character embodies a few different elements to help make them well-rounded and complex.

• Solid backstory: Our game character has a personality (even if it's unlikeable), and their backstory has enough detail that the player can get a good sense of who they are and what they want. Even mysterious protagonists reveal enough information to ignite curiosity within the player, making them want to find out more.

• Strong motivation: RON character is someone with plausible motivations and a unique look that expresses who they are. Defining your character's history and relationship to the game's quest will help flesh out their motivations.

• Evokes sympathy: The character should resonate with the player, evoke empathy and emotion, and be someone the gamer can root for and see themselves in. Without these elements, characters can come off as shallow, cliché, or boring, which can result in a negative video

gaming experience for the player.

2) Developing an Application using Unity 3D or Unity Engine:

After developing the assets, the next step is to develop the app, the UI where users will interact and play the game in the real world. Game creation involves extensive research. Research the type of game you are building and create a game design document (GDD), even if it is a simple game. The GDD is a brief for the entire project and outlines all the major details like game mechanics, genre, world building, story, and marketing strategy. Your GDD should answer any questions a potential audience might have about the game, from high-level concept down to the minutiae of aesthetic choices in visual and audio design. As the game designer, you'll need to decide which game programming language you will use, how big your development team will need to be, and the various resources you will need. Now that you have done your research, you can begin to develop the framework of your game. You'll need to select the best programming language and game engine for your concept. For small mobile games, you will not need the same advanced technology required for more hardware-dependent games. During this stage of development, you can also begin scripting code for your game. (Game developers with a sizable budget often hire a team of programmers to script code to save time).

Conclusion

We have designed an Endless Runner game mobile/web application and completed its development. We have applied engineering knowledge to analyze the societal problem of people struggling with mental problems and have tried to implement some fun elements in it. We have designed the application in two modules. We have investigated the available application to find out the new solutions and updates. We have used the modern tool Unity 3D for the implementation of the application. During this project tenure we have applied professional ethics and understood the importance of teamwork and communication while presenting projects in various competitions and conferences for project management. This solution can be developed at a generalized level for multiple sectors for life-long learning.

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