CS427: Game Development and 3D Visualization

**REPORT**

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**1. Story line**

In a little-known land call Karmatinent, there lives creatures beyond imagination. There are monsters that never stop evolving, the eldest of which dated back to the Age of Chaos, the youngest of which has just taken its first breeze of air.

And where there are monsters, there are adventurers.

Brian, a young dedicated magician and adventurer …

He has magic, unrivalled by any of his age.

The Orb of Elder, inherited from his father, always accompanies him on every journey, possesses the infinite power of Holy Fire that scares away even the toughest dragon.

The Amulet of Apparition, in the form of a paper airplane which he calls F-amulet, a gift from his once childhood friend and now gently sweetheart Freya, can take him to anywhere in a blink of an eye, as long as his magic can reach.

The Draco Sneaker, old and rusted as it looks, lies among the strongest garment of all time, giving ultimate protection to its owner’s feet. Of course, Brian made it himself, after slaying a dragon foolish enough to kidnap his girl.

And so many other invaluable objects that even the richest king would fall on his knees just to have a chance to touch one.

Talented as he is, Brian is now stuck in a forest with an endless fight, because this is the forest of Laspider.

Laspider, the last of spiders, lurks in dense forest, spends years after years waiting for stray adventurer. Laspider has the power of break most magic, even turn one’s magic against himself.

Laspider’s spikes are full of poison, the only one that Phoenix’s tear cannot cure. The slightest touch of a spike can destroy everything, which is the reason many hero seeks for it.

For years, thousands of years, no one, even Merlin himself can kill it. The last of spiders still live, maybe for another thousands of years, maybe more.

What’s worse, Laspider has found out a new toy: a big bloody eye that can emit deadly laser. When Brian first saw the eye, he thought that it was a new magical creature that is yet to be discovered and tried to tame it with his Holy Fire. It turned out that he was bitterly wrong: the Laspider has taken another step on the road of evolution.

Brian, at the age of 18, who is often compared to Merlin in terms of magical power, is now struggling for life.

The only thing he can now rely on is the Orb of Elder and Amulet of Apparition. The other magical objects are either destroyed by poison or, just as the Draco Sneaker, turned against him.

Brian can hardly move, not because he is rooted to the ground by spider web – the Laspider seems not to like webs anymore, but because the Draco Sneaker is ten time faster than usual, and on the slippery ground, that means a better chance of a unprecedented full-body spike-hug.

Desperate, Brian lets out a piercing call that can be heard even from the farthest land, in hope that some brave young man would come.

Poor Brian, however, not knowing that even the forest route has been changed, waits in vain, as his Orb of Elder’s light grows weaker and weaker …

**2. Idea**

This game is inspired by Gunny. However, Gunny is turn-based, while this game is real time. Players have to reflex quickly to laser and shoot precisely in a short amount of time. Players do not passively wait to get hit and then hit the boss back. Instead, they have to dodge and strike back – the laser does hurt, and they are allowed to attack in a limited amount of time. This is a real challenge. Even the author has not finished the easy mode.

~~(Hint: due to ‘Laspider’s trick, the Legend mode button is actually the easy mode :3)~~

What’s more, any ‘over-pressing’ left or right arrow key, or a ‘mis-fly’ will cause them to lose the entire game, therefore player has to be extremely careful, which is the main attraction of this game: players interact in real time and have to overcome exciting challenges.

**3. Features:**

- Keyboard interaction:

+ Left/Right arrow for movement

+ F for airplane, to teleport

+ Up/Down arrow for aiming with an angle – from 70 to 90 degree

+ Hold space to focus, release to shoot.

- Boss/Character animation

- Natural-looking projectile

- Explosion sound

- The red eye is the weakness of Laspider, as the other parts of its body are by stone-like shell and spikes.

- When collided with Laspider, the player loses game immediately.

Demo video can be found at *Demo* directory.

Trailer: https://youtu.be/Y5lFCuqqutU

**4. Techniques:**

- Trajectory of Projectile from General Physics I (Unity’s 2DPhysics system is overly realistic, which causes some disturbances when shooting fire and laser and makes the angle of the projectile look unnatural).

- Particle System (from Asset Store, just drag and drop)

- Object Instantiation

- Unity Collision2D

**5. References**

https://www.gameart2d.com/temple-run---free-sprites.html

PyroParticle (Unity Asset Store)

https://edermunizz.itch.io/