

# Zerlin

Project Plan for group Red Four

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## Overview

Zerlin is a Jedi Knight in a scrolling environment (similar to Super Mario Bros) making his way through the different planets of the Star Wars Galaxy. He has to deflect lasers off of his lightsaber at certain angles which will blow up the flying droids he encounters on his quest. The droids will follow his movement. They are initially sparse, and increase in amount as he moves through the levels, which incentivises him to take them out as he encounters them. He moves his lightsaber in a perfect arc around his body, achieving the angle necessary to hit the moving targets. In addition to his lightsaber deflection, Zerlin gradually gains more complex attacks, such as slash, spin slice, drop attack, lightning, and saber throw. The ground attacks may be more useful in fighting other ground opponents, such as a Sith Lord, also wielding a lightsaber, or Magnaguards, wielding a staff. Zerlin also has to jump over obstacles as he is avoiding his opponents, such as endless pits, lava pits that spit fire, a sarlacc pit, etc. Many of his moves are acrobatic, including Force jumps, backflips, or somersaults to navigate the opponents as necessary.

## Story

After the Emperor's deadly betrayal of the Jedi known as order 66, Zerlin, a Jedi Knight at the time managed to fend off the clones and bounty hunters, and escape into hiding on Tatooine. Now with the Emperor's gaze turned to the rebellion that was gaining traction, Zerlin emerges from his self exile to meet with the Rebellion and defeat the Empire. Unfortunately, Zerlin is always one step behind the Rebellion and the Empire, so whenever he hears word of some exploits of the Rebellion, he heroically rushes to a planet to find the aftermath of a conflict, and plenty of left over Empire scouting droids that he has to contend with. For the final boss, Zerlin tracks down one of Palpatine's henchmen leading the massacre on any planet said to be hosting the rebellion, trained in the Jedi arts. Zerlin must kill him before he escapes and reports the rebellions whereabouts to the Emperor. To conclude the story, Zerlin returns to Dagobah, finding Yoda foreseeing that it is another's destiny to destroy the Empire, and Zerlin has fulfilled his destiny in helping restore peace to the galaxy.

## Control

The arm and the lightsaber of our hero is a separate image file painted on top of his body. It is rotated in an arc around the body in following the movements of the mouse. This introduces the geometry of a laser deflecting off the blade in a similar fashion to a beam of light reflecting off of a mirror. If a droid is flying high, the only way to destroy it is to deflect a laser back at it.

The Jedi moves forward and backwards, using 'A' and 'D', but has to move forward to get to the end of the level, meeting the boss. He also can jump, using 'SPACE', and force jump (a higher jump that takes a moment to charge).

Zerlin has different attacks at different points in the game which would be activated using different keys or left click / right click. These specific triggers will be decided based on the frequency of use during gameplay. When fighting ground opponents, the user must find the correct balance in alternating between the regular block (which is merely positioning the lightsaber), and attacking (each attack will deal a different amount of damage, but will take different amounts of time, leaving Zerlin defenseless during it, and will have a different animation). The ground opponents should provide small opportunities in their movement for damage to be dealt.

He can also use Force meditation to heal. This entails kneeling, putting away his lightsaber, and becoming completely susceptible to attacks, so it must be used sparingly.

## **Animations**

First off, the scene will use Parallax Scrolling to make the background seem far away, and give the game a 3-Dimensional feel. The layers will be different depending on each level. Each level is a different planet. Depending on time, we will have 3 - 5 levels; desert (Jakku / Tatooine); snowy (Hoth); Urban (Coruscant / Corellia); Jungle (Dagobah / Endor), and a starry night level, to show the death star under construction. The levels may include platforms, endless pits, lava, and moving transparent precipitation on top of the foreground, such as snow or rain.

The hero's animations would include rotating the image of the lightsaber around the body in an arc (its axis of rotation Zerlin's arm socket) and flipping the image and the character when the mouse moves behind him. We would also provide animations by using the sprite sheets for Zerlin walking (forwards and backwards), jumping (different images for ascending and descending), flipping, somersaulting, and Force meditating. For attacks, there would be sprites for slashing, spin slices, force lightning and saber throwing.

The enemy animations would be mainly hovering droids, which are simple (merely blinking lights). There would be an explosion sprite for when they are hit by a deflected laser. The lasers would be a drawn line, rotated based on the angle of the shot or the angle of deflection. Different types of droids would shoot lasers in a different patterns. Examples would be single shots, small bursts, sprays, or continuous beams.

The droids and bosses would have AI in their movements. The flying droids would smoothly move, always accelerating to a point directly above the hero. This would keep them at a distance, while making their movements smooth (a droid may be moving away from the hero, but it would be slowing down). The ground bosses, yielding a saber, would move towards the hero, and alternate between attacking, and blocking, in predefined, or random intervals.

## Character Specifics

1. Enemies:
  - a. Basic Droids:
    - i. Attack: all single lasers deal 1 damage
      1. Scout Droid: 1 laser. Wait 2 seconds before next attack.
      2. Burst Droid: 4 lasers burst in a single line, 5 ticks between each laser shot. Wait 3 seconds before next attack.
      3. Shotgun Droid: 6 lasers in a “shotgun” formation with center laser focused on player. Wait 3 seconds before next attack.
      4. Beam Droid: blasts instantaneous continuous beam, dealing a small amount of damage for every tick the beam collides with character. Fires once every 6 seconds for a duration of 1 second.
      5. Sniper droid: stays further away, but always shoots single, super fast shot, once every 5 seconds.
      6. Multi-shot Droid, shoots 4 parallel lasers, extremely close to each other, dealing 4 damage potentially, instead of 1. Fires once every 3 seconds.
      7. Bomber Droid: drops a bomb that explodes on collision with platform. Bomb drops below droid. Wait 10 seconds before each attack.
    - ii. Health:
      1. Each basic droid has one health or dies on collision with lightsaber..
  - b. Bosses (3 Bosses, 1 for each level)
    - a. Big Flying Droid (B.F.D) shooting several patterns of lasers with high frequency, 50 health, 10 lightsaber attacks to destroy
    - b. A star ship shooting cannons and continuous beams, 75 health, 15 lightsaber attacks to destroy
    - c. Emperor’s Henchman (has helper droids), 100 Health, 20 lightsaber attacks to destroy
2. Main Player
  - a. Attack/Defense:
    - i. Deflect, collision with lightsaber will alter course of laser shot by enemies
    - ii. Slash, deals medium damage in the direction Zerlin is facing, medium speed

- iii. Slice, deals small damage on a single plane (at his chest height) in both directions as he spins, fast speed
  - iv. Jump slam, must jump above enemy, then pounce, does large damage
  - v. Force lightning, deals large damage in the direction Zerlin is facing, slow speed, drains force
  - vi. Lightsaber throw, deals medium to everything in path Zerlin is facing for a distance, instantaneous response, takes 2 seconds, drains force
- b. Health:
  - i. Character can take 10 shots before game over
  - ii. Meditation heals one hit point per second
- c. Abilities:
  - i. Force jump, takes  $\frac{2}{3}$  second to charge, then can jump twice as high to attack flying entities
  - ii. Force meditation for healing and recharging Force

## **Assets**

1. Zerlin
2. Droids
3. Lasers
4. Parallax layered backgrounds
5. Bosses
6. Powerups
7. Platforms

## **Sound**

Sound is a critical component to the success of this game. Care would have to be taken to maintain a high level of performance.

The sound effects would include:

- Lasers shot
- Lasers deflected from lightsaber
- Explosion of droids
- Lightning
- Other Jedi attacks (slash, spin slice)
- Continuous background music (different for each level, and possibly for boss)

## **Extra Features**

These are contingent upon our time availability and the performance of our game. These are considered to not be necessary to the core gameplay, but we would strive to achieve them. (Underlined features will be given higher priority)

- Added droid types (different shot patterns, continuous beam, drops bombs, Magnaguards)
- Obstacles (pits) are animated. For example, a sarlacc pops out of the pits in the desert level, or lava pits spit bursts of fire, etc.
- Platforms move
- More levels
- Power ups: healing; temporary invincibility; temporary enhanced laser deflection (this could take many forms); lightning enhancement; slow motion of surroundings (giving the player more time to react); force grab / throw / crush of opponents.
- Level replay: since the lasers will be flying considerably slower in this game than they do in the movies, the player could be given a video replay of the level at an increased speed upon completion, so they could enjoy watching their hero's action appear more masterful.
- Force power bar, recharges from time and from power ups. Using certain abilities depletes it.
- Inventory of abilities that the user could quickly choose from in combat.
- Cooler animations of movement, such as force jump, somersault, attacks, saber throw, etc.
- Scoring
- The animation for the jumping includes the cloak flowing in the correct direction.
- Saving of progress (based only on the last level completed).
- Different lightsaber colors (by user customization or from power ups)
- Easter eggs: falling into certain pits will take you to a secret room with a knock knock joke immediately before you die; pop culture references.
- Cheat codes (potentially useful for testing / debugging): infinite health, infinite Force power, go directly to certain level, etc.

## Timeline

### Jan 13 - Feb 1, Prototype due

- Develop some sprites for main characters, level, and animation of lightsaber movement following mouse movements. Other interaction with keyboard, such as jumps, moving side-to-side implemented.
- Physics must be implemented for jumps.
- Basic collision and geometry of moving lasers on the moving lightsaber implemented. Deflected lasers should now blow up droids.
- Basic Parallax Scrolling implemented.
- Research into sound effect creation (separate library)

### Feb 2 - Feb 22, Minimal Deliverable due

- Sound effects added.
- At least half of sprites for bosses and hero motions are drawn
- 1 playable level designed with boss.

- Basic attacks are working (the collision and the animation of a slash attack, for example), and a prototype working of battling with a ground AI yielding a lightsaber (such as a Sith, or a Magnaguard).
- Game efficiency improved for all objects on screen.
- At least one power up.
- Status of character (and boss) displayed for health and Force level.
- Mechanisms for inserting a story.

#### Feb 23 - Mar 15, Final Game due

- Video Demo made.
- More attacks (saber throw, lightning).
- More power ups.
- More Levels: this entails designing the art for the background layers; placing all of the pits, power-ups, droids, and platforms; designing the boss AIs.
- The story will be fully developed and integrated into the game.
- The background music, and all sound effects present without lag.
- Successfully connect and store game states / progress in database (last level completed, stored abilities, username, customizations, etc.).