

VR First Person Shooter

VRoom

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Opportunity

- The Samsung GearVR creates an incredible immersive experience for the user.
- Our goal was to take advantage of the immersive capabilities as the purpose of a first person shooter is to immerse the player as much as possible.
- Additionally, the GearVR offers an unprecedented amount of mobility with the technology of the Samsung Galaxy phones. This allows the game to be played casually among friends.
- Therefore, we wanted to make a game that is fun, simple, quick, and immersive that people can play together as people try to beat each other's scores.

Build Process

- This game was built for the Android platform on the Galaxy 6S to be played on Samsung GearVR.
- The game was designed and built using Unity and all scripts were written in C Sharp.
- Timeline:
 - Created the gun and mechanics with reload, animations, and ray casting.
 - Created and designed game modes with simple unity 3D objects.
 - Debugged and corrected any found errors when playing the game.
 - Once the game was functional, the simple unity objects were replaced by more complex objects from the unity asset store.
 - We added our scripts to these new assets and applied simple animations to them.
 - Finally, we prepared for the demo by testing and correcting heavily.

Game Modes

- Single Player Shooting Range:
 - This game mode is a high score competition.
 - Shoot drone targets as they approach.
 - Earn more points for father away the target is hit.
 - Every time a drone is destroyed, another is spawned that approaches the player even faster.
 - If a drone reaches a player, they lose one of five life points.
- Live Screenshots:



- Single Player Rail Shooter:
 - This game mode is a high score and time competition.
 - Game mode featuring the player moving along a preset track and shooting at enemies.
 - More dynamic experience than shooting range mode.
 - Not indefinite, has finite end to give players sense of accomplishment.
 - Life count increases to accommodate longer play.
- Live Screenshots:



- Multiplayer
 - This game mode is a survival competition.
 - Shoot targets to send them toward your opponent and away from you.
 - Every time a target is shot, it speeds up.
 - If a ball reaches a player, that player loses 1 of their 5 life points and the ball is reset in the middle.
 - The last player standing wins.
 - This game mode was not able to finished within the allotted time due to the following issues:
 - Latency became a big issue as there are rays cast from both players every frame. Trying to send this over the internet was causing a lot of noise on our server. Lag became so bad that the game was unplayable.
 - Some changes on the client side would not transfer over the server to the other client.
 - We could have troubleshooted and debugged these issues, but with the demo date coming up fast we had to prepare our two working games for the demo instead.

Controls

- Our goal for this project was to have controls kept to a minimum while feeling natural and simple. We wanted new players to be able to play our game without a tutorial with ease. With these controls, we were able to incorporate a fully functional first person shooter and keep it simple.

- Focus using the dial on top of the VR headset



- Shoot by simply touching the touchpad



- Reload by looking downward



Unity Objects

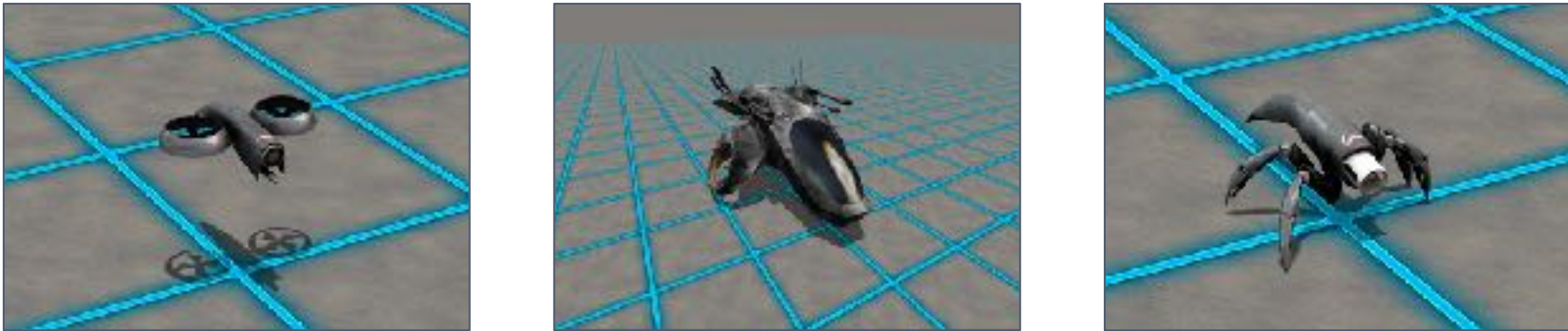
- Once we were able to form a skeleton of the game, we were able to replace some of our simple objects with more complex objects found on the unity asset store. Here they are with their names and download links:

- The PM-40 Gun



- <https://www.assetstore.unity3d.com/en/#!/content/51604>

- The Enemies/Targets



- <https://www.assetstore.unity3d.com/en/#!/content/15159>

- The Military Base



- <https://www.assetstore.unity3d.com/en/#!/content/7550>

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