Colby Atrius – DevLog #1

Introduction/Elevator Pitch

**Colby**: Welcome to Kairos DevLog #1, I’m Colby,

**Noah**: And I’m Noah, and we are team Atrius. We are students at Seattle Pacific University studying computer science and developing under the guidance of Professor Andy Cameron. Today, we are here to tell you about our Senior Capstone Project, Kairos.

**Colby**: Kairos is an RTS Game set in a fantasy world in which you must fight the evil corruption to restore your land. As the player, you will be able to build your kingdom and train units to help your people survive this calamity. Be careful however, because the corruption is always growing closer. Train up units using holy magic to push the enemy back, and cleanse the world of this vile plague.

**Noah**: In Kairos, the world is unique and randomly generated, changing the playstyle of every new game. Challenge yourself to conquer an aggressive corruption, or, if you prefer a more relaxed game, sit back building and expanding against a more slow-growing corruption. We believe Kairos will bring a new and unique experience to the RTS Genre.

**Colby**: Our team is developing using the Unity Engine and visual studio. We manage our project tasks using Jira and our project repository is stored on GitHub. We keep ourselves on track using agile-scrum team management.

**Noah**: Over the past number of weeks, we have faced many challenges in development, but we are extremely proud to show you the results of our work. Much of our focus has been specifically on our World Generation as well as our unit behavior. These are the core of any RTS game, and we feel that completing these 2 items has been a major win for our team.

**Colby**: Our world is rendered using a voxel-based system, and we randomly generate the map with a modified Perlin noise algorithm. This noise gives us realistic looking maps and terrain. Part of world generation is also focusing on what the player experience will be. We want to make sure that our players get the experience of completely purifying the world, so our world is generated as continent. This makes the corruption spread, purification, and survival simpler from the players perspective.

**Noah**: For our unit behavior there 2 primary components. Pathfinding, which allows the units to move around the map, as well as a flocking algorithm, which makes the units move in a natural manner, allowing them to avoid each other. For Pathfinding we use the A\* algorithm which allows for finding efficient paths to positions on the map. However, if units follow these paths directly, they move rigidly and calculating the paths for a large group of units is not practical. To solve this, we also implemented a version of the boids algorithm. Using this algorithm, units avoid one another as well as move together as a unified group. This also allows us to run pathfinding a single time for a large selection of units, making unit movement significantly more efficient.

**Colby:** Development has been difficult. At the beginning of this quarter, our whole team felt as if progress was in the red. Things weren't moving as fast as we had hoped, and we were getting nervous that we wouldn't be able to finish our product on time. We met with Professor Cameron on these issues, and he helped us more clearly define what our product should look like. Following his advice, we have decided to focus on creating a partial-gameplay demo. Our goal is to complete the gameplay demo by February 21st and have a steam playtest live to receive feedback on Kairos.

**Noah:** This demo will showcase all of the core features required for an RTS Game; however, it will lack the polish and feel of our final desired product. Our hope is that we can use these core features as building blocks, slowly refining our game until we reach our MVP product, set for completion in May 2023.