

Ar 'n' Dungeon

Interim

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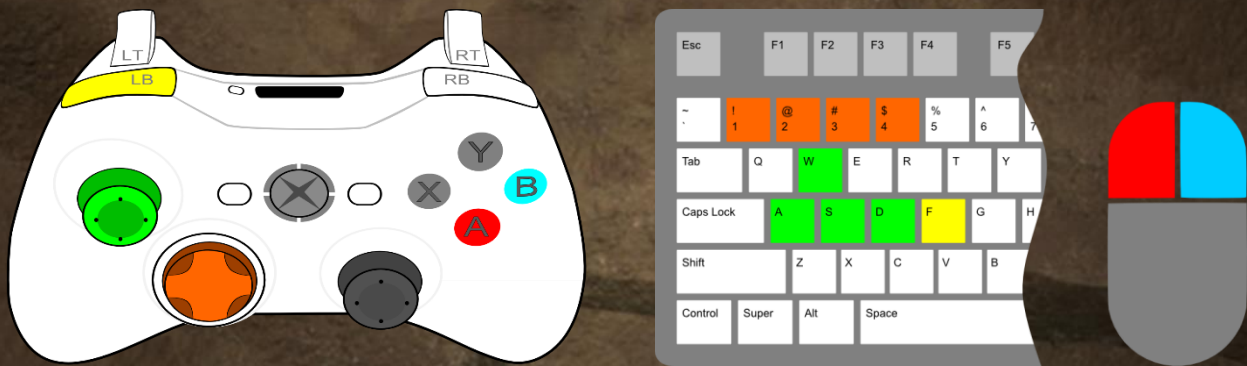
1 Functional Minimum

1.1 Unit Mechanics

Everything in the scene which moves is a unit: Player characters and enemies. They have several attributes: Attack Damage, Experience, Health Points, Max Health Points and Experience Level.

For the players applies the following input scene:

The movement inputs are highlighted with **GREEN**. The direction is absolute since the camera is not rotating. The primary attack is bound to the more common key marked in **RED** whereas the secondary attack is highlighted **CYAN**. Additional skill can be activated with the **ORANGE** number keys on the keyboard or the D-Pad on the controller. If a player is lost on the map since he's out of the camera's FOV he can press the **YELLOW** key to focus on his character.



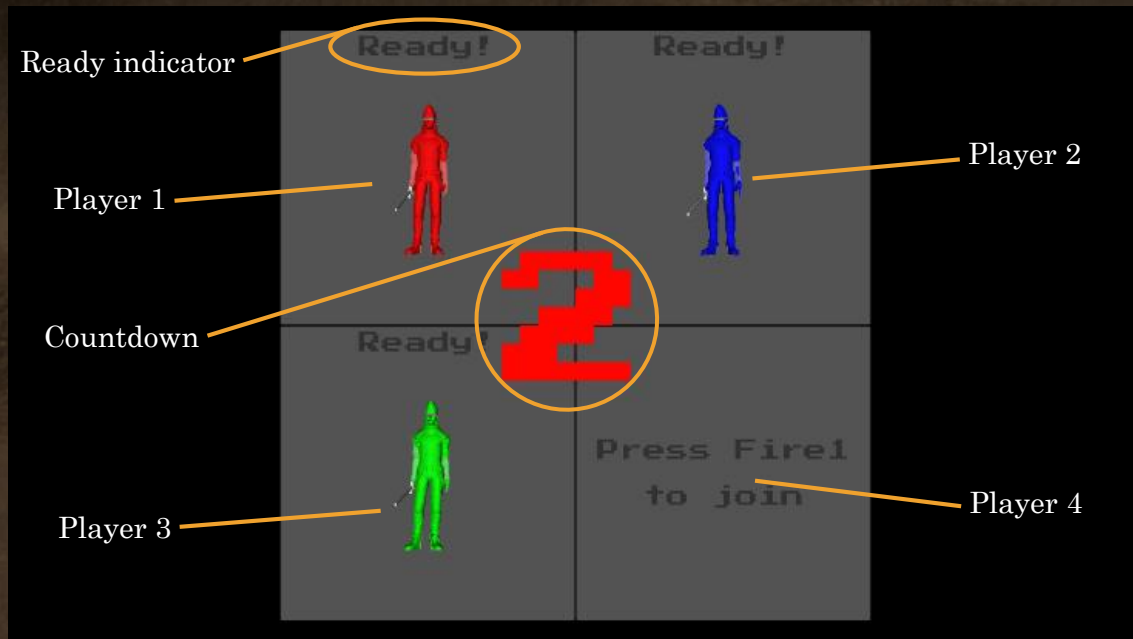
The enemy units are controlled by the AI explained in the [Artificial Intelligent](#) chapter.

1.2 Basic UI

1.2.1 Start Menu

The current menu is right before the stage starts. When a player hits the primary attack button on this input device the next free slot is allocated to him.

When all players are ready to start the stage they hit the fire button again and a countdown from 5 to 0 starts. When the countdown hits 0 the stage starts and the player can control their characters.



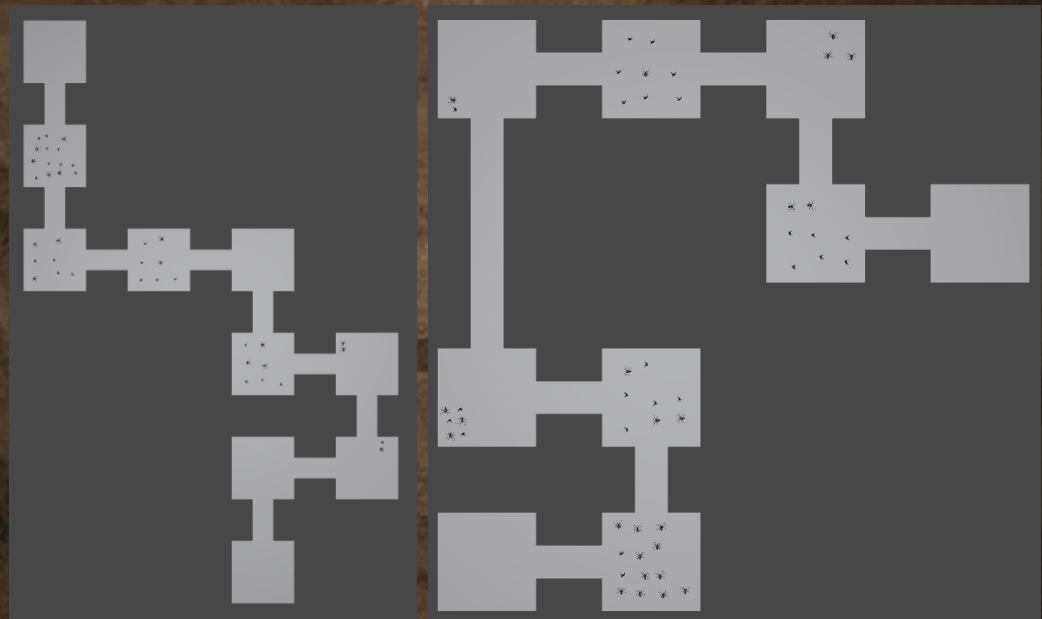
1.2.2 Game UI

The status, level and skills of every player is displayed in the corner of the screen where his character appeared in the [Start Menu](#).



1.3 Level Generation

The Level Generator works in several phases. First it calculates the path through the grid then according to the intersection of the grid the right island templates are chosen. The base of the island is extended with spawn areas for enemies, trap and loot. Each spawn type has three sizes: large, medium, small. Depending to the size more, stronger or better objects are spawned.



2 Low Target

2.1 Models

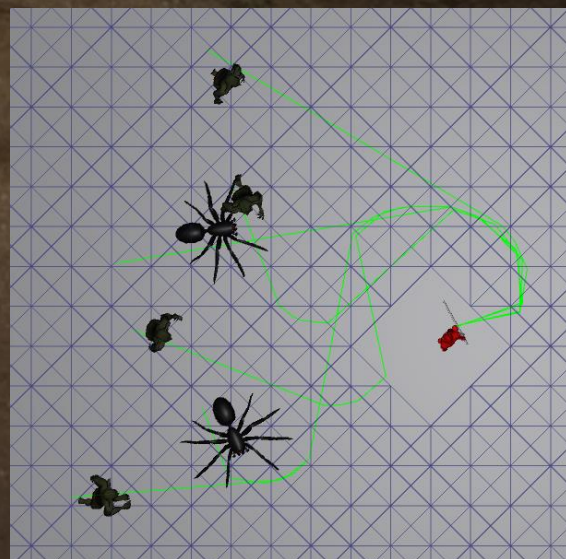
The greatest challenge during the whole project is to create all the 3D models with materials and textures. Whether if they are static or dynamic with additional bones and animations.

According to the definition of Interim everything art related can be quite ugly. This holds for our project as well. We try to converge to a quite acceptable visual appearance but since we're all engineers there won't be any current state of the art visuals.



2.2 Artificial Intelligent

The enemies attack the player on first sight navigating on a grid using the A*-algorithm. In the beginning the enemies blocked each other's way while trying to reach the player. After adjustments like marking the cell the mob stands on as blocked evolved the algorithm such that the enemies circle the player.



2.3 Balancing

The basic balancing is done by just binding the level progression to the current stage.

The level and strength of the enemies is linearly increased with the value of current stage as factor.

The Players attributes are increased after 1000 points which are currently updated with the enemy's base health points after defeating him.

2.4 Stats / Items → Stats / Skills

In the current state only the four skills presented in the Physical Prototype are included in the game mechanics:

1. Invincible
2. DamageMultiplier
3. SpeedMultiplier
4. HealthRegeneration

The integration of items got postponed since the required models are not done yet.



3 Design revisions and Challenges

All ideas so far are incorporated into the game. No large changes were made only tweaks. The biggest challenge is to get all the impulses from the brain into the game in an acceptable manner in time.