

Defender - AI Project

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Breakdown of Work:

| | Player | Astronauts | Nests | Abductors | Mutants | Obstacles | Power-ups | Radar | Doxygen |
|-------------|--------|------------|-------|-----------|---------|-----------|-----------|-------|---------|
| Total Marks | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 5 |
| Jason | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% |
| Jamie | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% |

Game Controls:

Movement:

| | | |
|-------------|---|------------|
| Left Arrow | - | Move Left |
| Right Arrow | - | Move Right |
| W | - | Move Up |
| S | - | Move Down |

Abilities:

| | | |
|--------------|---|---------------------|
| Space | - | Fire Laser |
| Return/Enter | - | Activate Smart Bomb |
| T | - | Teleport |
| P | - | Pause Game |

Menu Scenes:

| | | |
|--------------|---|----------------------|
| Left Arrow | - | Move To Left Button |
| Right Arrow | - | Move To Right Button |
| Return/Enter | - | Select Button |

Game Installation:

SFML needs to be setup exactly as the link below shows.

[Ken Power's SFML installation instructions](#)

Game Extras:

Game extras include the use of shaders for the teleporting and the smart bomb, sound effects and game music.

Game Instructions:

The objective of the game is to keep all your astronauts alive. This can be accomplished by killing the abductors that try to abduct the astronauts.

Abductors will flock together whilst avoiding the player and obstacles. If the player is within a certain range of the abductor whilst flocking, the abductor will fire in the direction of the player. If the abductor comes within range of an astronaut, it will attempt to abduct the astronaut. If an abductor is killed mid-abduction, it will explode and the astronaut will fall to the ground.

Abductors can abduct astronauts in mid air.

The longer the Nests are alive the game will become increasingly difficult as the Nests will continue to spawn abductors. If the player is within a certain range of the Nest, the Nest will evade the player. If the player gets even closer to the Nest, the Nest will fire a missile that will lock onto the player. This missile will kill the player in a single hit but can also explode after a certain time alive.

Once an astronaut is abducted, a mutant will spawn. The mutant has two possible states, the first of which is active when there are multiple mutants, this state will cause the mutants to swarm together and surround the player in a circle formation. Once in the circle formation, the mutants will fire bullets in the direction of the player. The other state of the mutant will cause it to charge at the player in an attempt to destroy them both. The mutant will enter its charge state if they are the only mutant alive or if its health is less than 10%.

If the player manages to kill every enemy whilst still having astronauts alive, the player has won the game. If all the astronauts have been abducted or the player has been killed, the game is over.