

Project Abstract - Asteroids

The aim of the project is to create on the labkit a version of the popular computer game 'Asteroids'. Asteroids is a game set in 2 dimensions featuring a spaceship in a field of moving asteroids. The asteroids move randomly and spin. The player controls the spaceship, moving it around the playing field and shooting at the asteroids to destroy them. When hit by the spaceship's weapon the asteroids break down into smaller asteroids and eventually are removed from the field. The game is completed when all asteroids have been destroyed. The game is lost if the spaceship collides with an asteroid.

Our implementation of the game will feature: joystick control for the player, 256 colour 2D video, sound effects, scoring and a physics model to move the asteroids around the field and detect collisions as necessary. We plan to have a collection of asteroid shapes and sizes defined in memory as opposed to generating random shapes (which may not look like asteroids).

We plan a basic implementation to include all of the above, if we finish early we plan to improve upon collision detection, add power-ups/choice of spaceship and alien robots to the game to improve the player experience.

We estimate that the work load will be split evenly between the team members with both involved with video and gameplay modules. This would be achieved by splitting gameplay and video into several discrete modules which function individually to provide each aspect but combine to create the entire game, for example, separate modules to control moving the ship, moving the asteroids, detecting collisions, etc.