

## **How you implemented the various features:**

- PVectors to represent the location and velocity of the ship, alien, alien laser, and explosions
- ArrayLists of PVectors to represent location and velocity of the ship laser bolts
- Floats, Integers, Booleans, and Arrays to represent game variables and parameters
- ArrayLists of PVectors, Booleans, Floats and Integer's to represent asteroid variables
- Initialise functions to initialise variables for the start of the game, new ship lives, and new levels
- Draw functions to draw elements of the game composition to the display for each frame of the game
- Move functions to animation movement of the ship, asteroids, laser bolts, and the alien
- Collision detection functions with rectangular and circular collision detection to detect collisions between the ship, asteroids, laser bolts, and the alien
- Wait functions to spawn new elements of the game composition during play, such as the ship, the alien, and alien laser bolts
- Explode functions to start explosion animations for the ship, asteroids, and the alien
- Keys functions to detect and process key press and key release events so the user control of the game is responsive and fluid
- Kazam to record video screen shots, and Shotcut to compose the overview video

## **Design decisions that lead to your implementation:**

- Based the design of the procedural implementation of the video game on childhood memories of playing asteroids on the Atari 2600
- Chose values for game parameters that would make the game fun to play, and to make it more difficult to play as game play proceeds and level up occurs

## **Outline which parts of the project were contributed by each team member:**

### **Matthew Watts:**

- designed the procedural implementation of the video game
- wrote the procedural implementation
- tested and debugged the procedural implementation
- wrote the documentation
- created the git repository
- facilitated the overview video
- created components of the overview video

### **Christopher Davidson:**

- designed the object oriented implementation of the video game
- wrote the object oriented implementation

- tested and debugged the object oriented implementation
- created components of the overview video

**Marcus Girard**

- helped to write the level counter and lives counter in the procedural implementation of the video game
- helped to test the procedural implementation
- created the activity diagram