| BACKLOG   | PRIORITY EST. | STATUS           |
|---|---------------|------------------|
| SPACESHIP   |               |                  |
| Upon new game, a Spaceship object is created of fixed size, at the centre of the                  |               |                  |
| screen.   | MUST          | CLOSED           |
| It moves in the direction it points with the up arrow, you can point it left or                   | 101031        | CLOSLD           |
| right with the  | MUST          | CLOSED           |
| The Spaceship fires a Laser which is triggered by pressing the spacebar.                          | MUST          | CLOSED           |
| If the Asteroid touches an asteroid it loses a life.  | SHOULD        | CLOSED           |
| The Spaceship is created with three lives.  | SHOULD        | CLOSED           |
| If all lives are lost, the player dies.   | MUST          | CLOSED           |
| If the player loses a life, they should be put back to the centre of the screen.                  | SHOULD        | CLOSED           |
| avoid dying   |               |                  |
| continuously because of crowding asterids in the centre.  | SHOULD        | CLOSED           |
| ASTEROID  |               |                  |
| Asteroid objects have a velocity and size as attributes.  | MUST          | CLOSED           |
| When a new level or game begins, a fixed number of Asteroid objects are                           |               |                  |
| created at  | MUST          | CLOSED           |
| Asteroids are polygons that vary in size.   | MUST          | CLOSED           |
| two smaller   |               |                  |
| asteroids.  | MUST          | CLOSED           |
| Asteroids move across the screen at a fixed velocity, this velocity is affected                   |               |                  |
| by being hit  | MUST          | CLOSED           |
| Asteroids don't interact with each other, they pass through each other.                           | MUST          | CLOSED           |
| LASER   | NALICT        | CLOSED           |
| The Laser object has a lifespan and velocity as an attribute.  Fired from the centre of the ship. | MUST<br>MUST  | CLOSED<br>CLOSED |
| that of the   | MOST          | CLUSED           |
| spaceship.  | MUST          | CLOSED           |
|   |               |                  |
| Collision with an Asteroid causes the Laser to disappear.   | MUST          | CLOSED           |
| If it does not collide with anything, the laser dies after a certain amount of time (lifespan).   | MUST          | CLOSED           |
| Holding the spacebar shoots at most 5 lasers to prevent spamming lasers.                          | SHOULD        | CLOSED<br>CLOSED |
| ACCOUNT   | SHOOLD        | CLOSED           |
| Upon running the program, a user can register as a new user.                                      | MUST          | IN PROG.         |
| They click the REGISTER button and are brought to a register page.                                | MUST          | IN PROG.         |
| The user name is a combination of provided "Clan Names" and user chosen                           |               |                  |
| integers.   | MUST          | IN PROG.         |
| Passwords are generated randomly and provided for the user.                                       | MUST          | OPEN             |
| This user and their credentials are saved to a local database.                                    | MUST          | OPEN             |
| The password should be saved in a hashed format.  | COULD         | OPEN             |
| In the opening screen the user must log in with their credentials.                                | MUST          | IN PROG.         |
| If they've entered incorrect information, the text fields should flash/turn red.                  | SHOULD        | IN PROG.         |
| second  |               |                  |
| window.   | MUST          | IN PROG.         |
| The user can be changed at any point.   | COULD         | OPEN             |
|   |               |                  |

## **SCORE**

| SCORE   |        |          |
|---|--------|----------|
| The score is calculated based on the number of asteroids destroyed.  Smaller asteroids give more points than larger asteroids (score is calculated    | MUST   | CLOSED   |
| using the Every score is saved to the local database with the corresponding user  | SHOULD | CLOSED   |
| account.  After finishing the game, the user is shown their score on screen and   | MUST   | OPEN     |
| presented with The top 5 high scores are retrieved from the database after each game and  | MUST   | OPEN     |
| the top five high scores are displayed on screen, with their corresponding players' initials.   | MUST   | OPEN     |
| SOUND   |        |          |
| In the background of each game, there is music played.  | COULD  | OPEN     |
| The music begins when a new game is started.  | COULD  | OPEN     |
| When a new level is entered the music reflects the change in difficulty and   |        |          |
| increases in speed.   | COULD  | OPEN     |
| Music stops when the character dies.  | COULD  | OPEN     |
| Starting a new game, entering a new level, ending a game all have distinct  |        |          |
| tones or sound effects.   | SHOULD | OPEN     |
| Frining Lasers makes a "pew" laser noise.   | SHOULD | OPEN     |
| Hitting Asteroids makes an explosion sound effect.  | SHOULD | OPEN     |
| LEVELS  |        |          |
| When all the asteroids are destroyed, you enter a new level.  | SHOULD | CLOSED   |
| The new level should be displayed on screen.  | SHOULD | CLOSED   |
| Each succeeding level should be harder than the previous.   | SHOULD | CLOSED   |
| The size or number of Asteroids should increase.  | SHOULD | CLOSED   |
| The highest level reached should be shown on the death/end screen.  | COULD  | OPEN     |
| MULITPLAYER   |        |          |
| Starting the program opens a server connection and establishes a connection   |        |          |
| to said server.   | WON'T  | OPEN     |
| Multiple people can connect to the server and create two player games.  When a player starts a game they are automatically paired with another user   | WON'T  | OPEN     |
| also trying to start a game at that time.   | WON'T  | OPEN     |
| THEMES  |        |          |
| In either the opening window or some secondary window, the user will have   |        |          |
| the option of choosing a theme for the game.  | WON'T  | OPEN     |
| Once the theme is chosen, icons, graphics and backgrounds will change to  |        |          |
| the chosen theme.   | WON'T  | OPEN     |
| The theme will be reset to some default every time.   | WON'T  | OPEN     |
| The themes will be predefined options (space, ocean etc.)   | WON'T  | OPEN     |
| SCREENS   |        |          |
| There must be an opening screen to log in with the games title, a username  |        |          |
| text field, a password text field, a login button and a register button.  There must be a register screen where the user can see the options of clans | MUST   | CLOSED   |
| and has a keypad of buttons to type numbers, there should be an area that   |        |          |
| displays the generated password and a register button.  | MUST   | IN PROG. |
|   |        |          |

| There should be a secondary screen that should have the options for the themes, an option to turn off sound, and the buttons to start a game or exit   |        |          |
|--|--------|----------|
| the program.   | SHOULD | IN PROG. |
| Once the game has been started, you should see the Asteroids, the  |        |          |
| Spaceship, the score, the number of lives remaining.   | MUST   | CLOSED   |
| The game screen should be looped, so if you exit the screen on the right at some y-value, you should re-enter on the left at the same y-value (and the |        |          |
| same for all other directions).  | MUST   | CLOSED   |
| When you die, your score should be displayed on screen with either the   |        |          |
| words "Game Over".   | MUST   | CLOSED   |
| If the user has gotten a high score, the words "High Score" should be shown  |        |          |
| on the screen.   | SHOULD | OPEN     |
| The end screen should provide a keyboard of buttons to type in ones initials.  |        |          |
| There should be a button to click enter to save the score with the name Then, the top 5 high scores should be spayed and there should be exit and      | MUST   | IN PROG. |
| new game buttons.  | MUST   | IN PROG. |