# Side Scrolling Shmup Design Document

### To talk abt

Ship feel

Ent system

Ent store system

Ship obj

Shooting cooldown

No ent create or destory during gameplay (all pooled)

Ship spawn invuln

Pitfalls of a pre collision check on spawn?

To be inproved:

Input buffer

Balence

Theming – why asteroids when not in space

Animated sprites – i might act do this one (bullet and asteroids)

Stretch and squash ship with velocity/accell

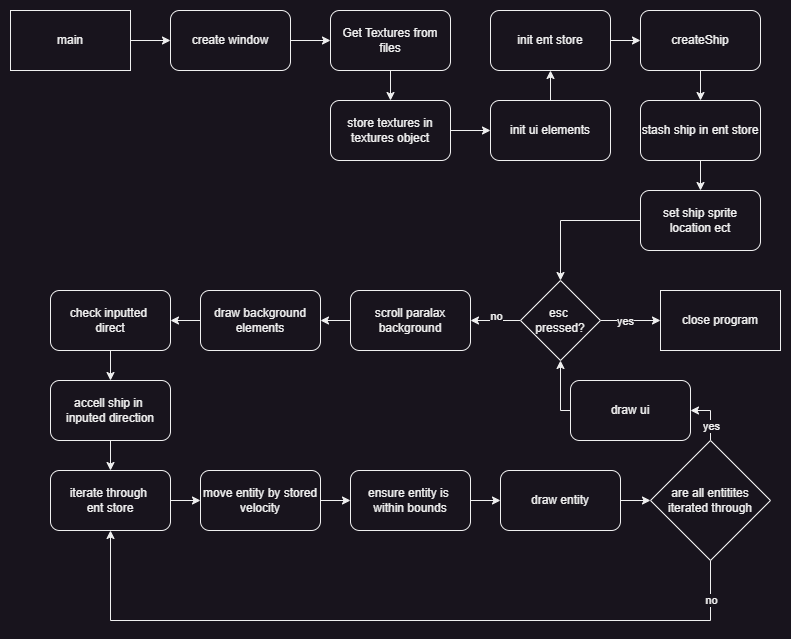
### Understanding the template

Due already having implemented a full entity system i will be using the my homework 3 solution as a jumping off point, rather then solution 11.

#### Procedure Dependency Diagram



#### Flowchart



## Upgrading the template

Alot of the ground work for this project is already present thanks to my work on homework 3, a robust entity system and entity store to easily manipulate a large number of entities.

In order to meet to specification i plan to extend the ent class to include collision as well as logic for collision cases. I plan to make a pool of both asteroids and bullets, in order to handle the large number of entities in an efficient manner, managing them with the ent store. This ship must be able to shoot, with the life of the bullets and asteroids handled correctly, respawning and activating/deactivating pooled entities correctly. The game must also have a fail state if a ship collides with an asteroid.

### Upgrade plan flowchart