“FPS Zombies”

* Run at 60 fps
* Player controller must:
  + Be first person
  + Push dynamic objects by walking into them
  + Stopped by kinematic objects
* Can shoot enemies
  + Gun must use ray casting
  + Must also implement headshot / body damage multipliers
* Can throw grenade
  + Grenade must be a physical object, can bounce
  + Affect nearby enemies on detonation
* Simple AI that will seek the player
  + Health that gets reduced when player shoots them
* When enemy dies or grenade explodes nearby, they ragdoll
* Have triggers that impact the simulation, for example;
  + A raising platform (elevator)
    - A button to call elevator to current level
* Implement at least 2 types of joints, for example;
  + A door that the player can push
  + A pendulum trap the player must avoid

Extension – to make it a portfolio piece

* Functional menus
  + Main menu
  + Pause menu
* A HUD
  + Current score
  + Bullet count and max bullets in magazine
* More depth to guns, for example;
  + Aiming Down Sights (ADS)
  + Reloading
  + Different gun types
* Better AI
  + A manager to spawn them in waves
  + Enemies are harder to kill as more rounds are won

“Wipe-Out”

* Run at 60 fps
* Player controller must:
  + Be third person
  + Push dynamic objects by walking into them
  + At least an idle animation
* Have triggers that impact the simulation, for example;
  + A raising platform (elevator)
    - A button to call elevator to current level
* Create a shove mechanic
  + Using ray casting where the player is looking
  + The heavier the object, the less effective the shove
  + If an object is too small, it can not be shoved
* Create hazards the player must avoid
  + If the player is hit they ragdoll
* If the player ragdolls, the level is reset after a delay
* Implement at least 2 types of joints, for example;
  + A door the player can push
  + A pendulum trap the player must avoid

Extension – to make it a portfolio piece

* Functional menus
  + Main menu
  + Pause menu
* High score system
* A HUD
  + Time of the current run
  + Death counter
* Checkpoints before major hazards
  + The player is then reset to the last checkpoint

Common

* Run at 60 fps
* Player can push dynamic objects by walking into them
* Have triggers that impact the simulation, for example;
  + A raising platform (elevator)
    - A button to call elevator to current level
* Implement at least 2 types of joints, for example;
  + A door that the player can push
  + A pendulum trap the player must avoid

“FPS Zombies”

Pros

* Level design not as important
* Guns are fun
* First person
  + No need for camera collision
* Done FPS before, will be easier to make

Cons

* AI ☹

“Wipe-Out”

Pros

* No AI 😊
* Not as many technical designs needed
  + No complex gun systems, for example…

Cons

* Have to design a cohesive and fun level
* Shove mechanic
  + Aiming in third person will be a pain
* Third person
  + Need camera collision
* Haven’t done third person as much

**Chosen Brief – “FPS Zombies”**

* Done FPS stuff before
* Only down-side is making fun AI