Don-Vincent Snell
For the Greater Good
Milestone 3

Functional Requirements
The User should be able to:
–Move about a 3D space
–Open and close a door
–Pick up and manipulate objects by rotating them
–Sit down in a chair
–Use a "sleep pod" to progress the story
–Access a terminal triggering a sub-game
– –Move a cursor to aim
– –Fire at and destroy enemies

Non-Functional Requirements
This section is a little tricky since I'm not quite at development beyond conceptualization and asset creation yet but I'll give my target requirements.

OS: Windows 10
Processor: 6th Generation Intel Core i5 6400 and up
GPU: GTX 1050 or Equivalent
RAM: 8gb
Peripherals: Mouse and Keyboard

UML:
**Player (Class)**
*0. <Render> None.  Camera attached to Null.*
*1. Movement Controls (Script)*
        Forward, Backward, Turn Left, Strafe Left, Turn Right, Strafe Right, Crouch, Jump,        Hurry(sprint) Using Keyboard (Functions)
*2. Look Controls (Script)*
        Follow Mouse Pointer, Zoom with Right Click (Function)
*3. 3D Collision (Script)*
        Gravity, Force, Inertia, Positional Bounding (Functions)
*4. Interact (Script)*
        Pull Object, Rotate Object, Zoom In on Object, Throw Object, Drop Object Using Keyboard and Mouse (Functions)
*5. Activate (Script)*
        Cause Event on Key Press over Trigger (Function)

**GunTurret (Class)**
*0. <Render> 3D.*
*1. Look Controls (Script)*
        Follow Mouse Pointer, Zoom with Right Click (Function)
*2. 3D Collision (Script)*
        Gravity, Force, Inertia, Positional Bounding (Functions)
*3. Health (Script)*
        Take Damage from Ships (Functions)
*4. Damage (Script)*
        Destroy Ships on Hit (Function)

**SAM/NPCs (Class)**
*0. <Render> 3D Model with Texture Maps.*
*1. Movement (Script)*
      Turn to Face Player (Functions)
*2. 3D Collision (Script)*
      Gravity, Force, Inertia, Positional Bounding (Functions)
*3. Dialogue (Script)*
      Audio Callbacks for Interactables and Level Progression (Function)

**Rooms (and other static components inside them like the table) (Class)**
*0. <Render> 3D with Texture Maps.*
*1. 3D Collision (Script)*
      Gravity, Force, Inertia, Positional Bounding (Functions)

**Interactables (Class)**
*0. <Render> 3D with Texture Maps.*
*1. Movement Controls (Script)*
      Positional Permanency (Function)
*2. 3D Collision (Script)*
      Gravity, Force, Inertia, Positional Bounding (Functions)
*4. OnInteract (Script)*
      Trigger Dialogue Events(Function)

**Door (Class)**
*0. <Render> 3D with Texture Maps.*
*1. 3D Collision (Script)*
      Gravity, Force, Inertia, Positional Bounding (Functions)
*2. OnActivate (Script)*
      Open, Close (Functions)

**GunTerminal (Class)**
*0. <Render> 3D with Texture Maps.*
*1. 3D Collision (Script)*
      Gravity, Force, Inertia, Positional Bounding (Functions)
*2. OnActivate (Script)*
      Trigger Turret Sub-Game (Function)

**Ships (Divided into friends and enemies) (Class)**
*0. <Render> 3D with Texture Maps.*
*1. Movement (Script)*
      Locked Motion Paths (Function)
*2. 3D Collision (Script)*
      Gravity, Force, Inertia, Positional Bounding (Functions)
*3. Health (Script)*
      Destroy on Hit (Function)
*4. Attack (Script)*
      Damage (Function)

Case Diagram:
Player can:  Move, Interact with Objects, Use Devices.
Player Turret can: Pan Around a Monitor, Fire Weapons.