**Assignment #3: Bomb Disposal Technician**

To practice your future job as a bomb disposal technician, we have prepared a test of your agility, planning, and ability to remain calm under pressure. Enjoy!

In this assignment, students must implement 5 panels using Unity UI. Each panel is rigged to a timer that explodes over time. To reset the timer the player must enter a pass code. If this code matches the bombs code, the timer will be reset. But remember, all 5 panels will be counting down at one time!

**Objective:**

* Ensure students are familiar with working in Unity UI, including supporting multiple resolutions
* Expose students to various UI elements available in Unity

**Required Resources:**

* Bomb Unity Project (Unity 2018.2.3f1)

**Project Structure:**

* There are 5 total panels
  + Each panel has:
    - A name: “DiffusePanel\_” + number of the panel
    - PanelBehaviour: defines the game flow and state of the panel
      * CAN NOT BE ALTERED
    - UIElements: empty object that is turned on/off on activation
      * Put all UI objects for the panel here
  + Panels may be altered and moved as the student desires
  + Panel MUST always have a PanelBehaviour
* Main Camera: the default view when entering the game (do not alter)
* BombDisposalUnit: the ui canvas, may change or add scripts if desired
* Starting Scripts (No changes to these scripts are allowed):
  + PanelBehaviour: the panel’s behavior, you WILL need to reference this behavior within your own UI

**The Components:**

* Panels:
  + Display the time remaining
  + Display the passcode needed to reset the countdown
  + Provide a UNIQUE method for inputting a code
  + Allow me to submit the inserted code
  + Must support mouse controls! (can use keyboard as well)
  + May adjust game play properties for better balance
  + Panel #1: 4 number code
  + Panel #2: 4 letter code
  + Panel #3: 5 number code
  + Panel #4: 5 letter code
  + Panel #5: 6 number and letter code
* Heads up display
  + MUST always show the status of ALL panels
    - Not just the displayed one
    - Including
      * Time until explosion
      * State of the panel
      * Which panel is active
  + Allow switching between panels via mouse click AND numeric input (1-5) on the keyboard
* Game over screen
  + MUST display whenever a panel first explodes
    - Should stop the game
  + Display my final score: 1 point for each panel diffused (suggestion)
  + Allow me to restart the game

**Submission:**

* Completed Unity Project
  + Only “Assets”, “Packages”, and “Project Settings” folders
  + Naming convention for project folder: gat240\_studentid\_3
  + Submit as zip: gat240\_studentid\_3.zip

**Rubrics:**

* **Each Panel – 10% each (50% total)**
  + MUST use unique input method
* **Heads Up Display – 10%**
  + Show status of all panels at once
  + Allow changing between panels
* **Game Over Screen – 10%**
  + Display on BOOM
  + Allow for restart and score
* **Design – 15%**
  + How clever your input methods are
  + How well your UI is designed (not graded on art…)
  + How well your game plays
  + How much effort was put into your panel
* **Flexibility – 5%**
  + How well your game handles changing resolution (always landscape orientation)
* **Cleanliness – 10%**
  + Clean project structure
  + Clean code structure
  + Followed naming conventions
  + Explained complicated code

**Notes:**

Chapters 2 & 3 in the book can help a LOT in finding solutions.