# EEE 111

## Introduction to Programming and Computation


# Design Project

## Exploration Game

# Objectives

1. Design and implement a game using available Python 3 modules and provided basic design concepts.
2. Utilize object- oriented programming (OOP) to divide a program into several tasks.

# Basic Project Concept

Create a pixel-based exploration game whose goal is to navigate through a *'dungeon'* which contains a series of mazes to search for *'items'*. Each maze has an *'exit'* which takes you to another level with a new maze. The game ends once the dungeon is completed or if a certain condition is met. The game should record the top high scores which is ranked dependending on the number or value of items that have been found and the time of completion.

# Project Checklist

- pixel-based and NOT grid based
  - player is larger than 1 pixel
- has a theme or design concept
  - player sprite, *'item'* sprite, maze design, GUI design, BG audio, etc.
- random map generation
  - enclosed maze
  - random exit placement
- random initial player position and orientation

# Project Checklist

- variable or custom size mazes
- random number and position of *‘items’*
- acceleration-based keyboard control
- collision detection (!!!)
- scoring and time of completion leaderboard

# Design Component

- theme
- graphical user-interface
- number of mazes in the dungeon
- second game end condition
- other interactions in the maze aside from the ‘exit’ and ‘items’

# Submission and Checking

- Each group is composed of 2 to 3 members.
- A random member of the group will be asked to demonstrate and explain the design project. At least 2 members should be present during checking.
- Project presentation deadline is anytime during the finals week. (Before December 14, 2018)
- Project codes should be submitted immediately after project presentation.

Thanks!

# ANY QUESTIONS?