*Game Design for the Summer 2019*

# References

**Ghost AI Explained:** <https://www.youtube.com/watch?v=ataGotQ7ir8>

<https://github.com/rm-hull/big-bang/tree/master/examples/pacman>

# Milestone 1 - Draw Game Board

## Objectives

* Create initial sprite data structures to hold game board data. Can also include placeholder classes for Pac-man and ghosts.
* Read in GameBoard1.txt text file and render walls and pellets.
  + Game board will use a 28x31 tile set, rendered from the sprite map (spritemap-384.png). The canvas size will exactly match the size of the laid out tile set. Each tile will be 24x24 pixels. This means the game board’s pixel dimensions are: 672x744.

## Data Structures

* Point (2d int vector)
  + x
  + y
  + dist(Point)
* SpriteMapper
  + Downloads the sprite map from the server and given the x,y coordinates of the tile, draws it to the canvas.
* Gameboard
  + tileWidth, tileHeight
  + Wall[]
  + Pellet[]
  + PowerPellet[]
  + Pacman
  + Ghost[]
  + draw()
* Sprite
  + Point tilePos
  + Point pixelPos
  + int currentFrame
  + draw(ivec2 sourceTile)
* Wall extends Sprite
  + Point sourceTile
  + draw()
* Pellet extends Sprite
  + Bool isPower
  + Int currentFrame
  + draw()
* Fruit extends Sprite
  + scoreValue
* AnimatedSprite extends Sprite
  + Int currentFrame
  + Point sourceTiles[]
  + Int moveSpeed (pixels/frame)
  + Int frameSpeed (number of frames before advancing to next)
  + draw()
* Pacman extends AnimatedSprite
  + Char desiredDir (L, U, R, D)
  + Char currentDir (L, U, R, D, S)
  + draw()
* Ghost extends AnimatedSprite
  + Char ghostId (i.e. Blinky, Inky, Pinky, Clyde)
  + Point targetTile
  + Char state (scatter, chase, frightened, eaten)