Pseudocode:

Initialise a clock;

Subtract x and y vector of drag position from bird origin to get distance;

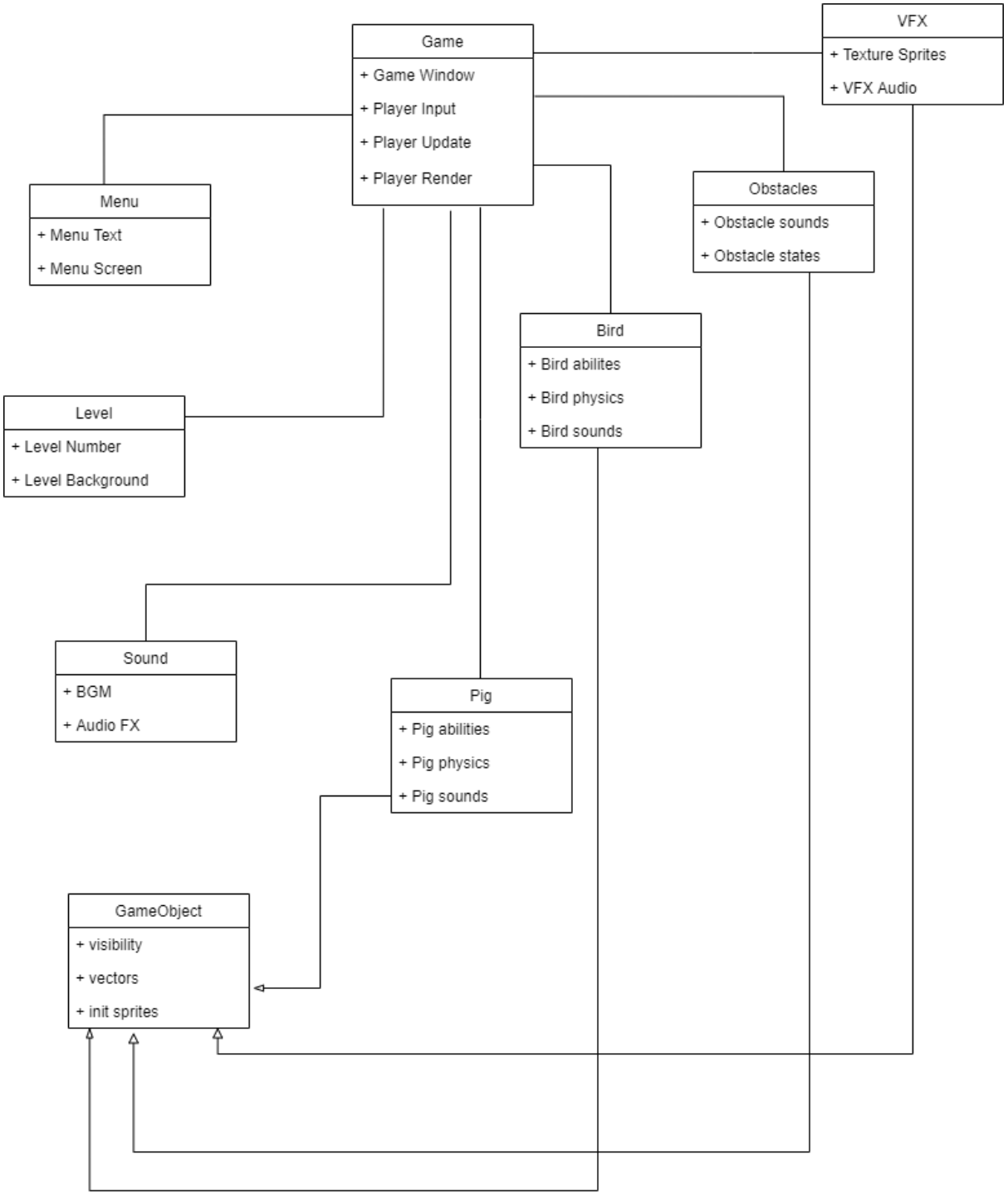
Normalise the vector;

Start clock counting once bird is released (release mouse click);

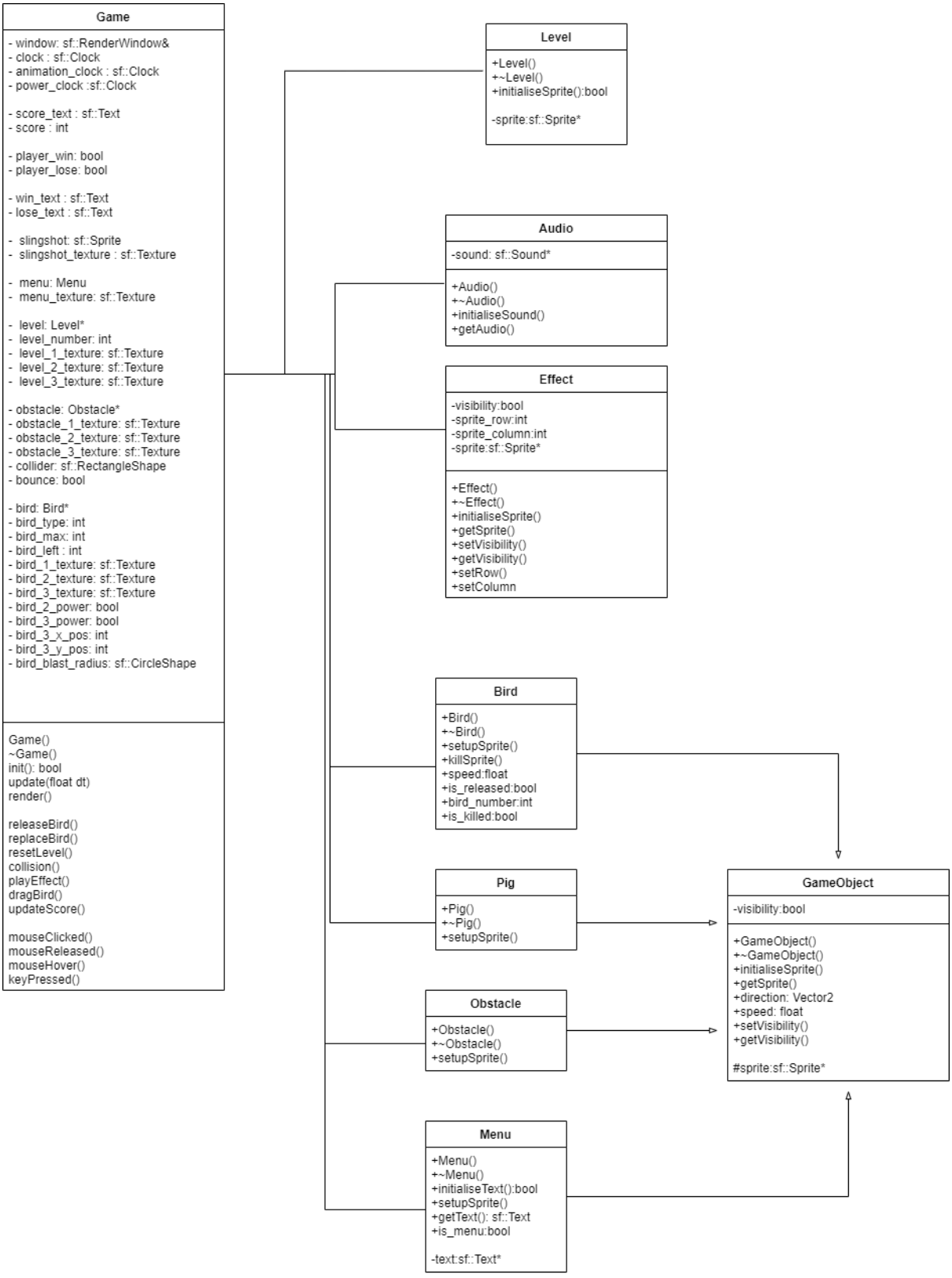
Move the bird.x in the normalised vector’s direction * speed * dt;

Move the bird.y in the (normalised vector’s direction + clock.asSeconds) * speed * dt;

UML Before:


Game
+ Game Window
+ Player Input
+ Player Update
+ Player Render
VFX
+ Texture Sprites
+ VFX Audio
Menu
+ Menu Text
+ Menu Screen
Obstacles
+ Obstacle sounds
+ Obstacle states
Bird
+ Bird abilites
+ Bird physics
+ Bird sounds
Level
+ Level Number
+ Level Background
Sound
+ BGM
+ Audio FX
Pig
+ Pig abilities
+ Pig physics
+ Pig sounds
GameObject
+ visibility
+ vectors
+ init sprites

UML After:


Game
- window: sf::RenderWindow&
- clock : sf::Clock
- animation_clock : sf::Clock
- power_clock :sf::Clock
- score_text : sf::Text
- score : int
- player_win: bool
- player_lose: bool
- win_text : sf::Text
- lose_text : sf::Text
- slingshot: sf::Sprite
- slingshot_texture : sf::Texture
- menu: Menu
- menu_texture: sf::Texture
- level: Level*
- level_number: int
- level_1_texture: sf::Texture
- level_2_texture: sf::Texture
- level_3_texture: sf::Texture
- obstacle: Obstacle*
- obstacle_1_texture: sf::Texture
- obstacle_2_texture: sf::Texture
- obstacle_3_texture: sf::Texture
- collider: sf::RectangleShape
- bounce: bool
- bird: Bird*
- bird_type: int
- bird_max: int
- bird_left : int
- bird_1_texture: sf::Texture
- bird_2_texture: sf::Texture
- bird_3_texture: sf::Texture
- bird_2_power: bool
- bird_3_power: bool
- bird_3_x_pos: int
- bird_3_y_pos: int
- bird_blast_radius: sf::CircleShape
Game()
~Game()
init(): bool
update(float dt)
render()
releaseBird()
replaceBird()
resetLevel()
collision()
playEffect()
dragBird()
updateScore()
mouseClicked()
mouseReleased()
mouseHover()
keyPressed()
Level
+Level()
+~Level()
+initialiseSprite():bool
-sprite:sf::Sprite*
Audio
-sound: sf::Sound*
+Audio()
+~Audio()
+initialiseSound()
+getAudio()
Effect
-visibility:bool
-sprite_row:int
-sprite_column:int
-sprite:sf::Sprite*
+Effect()
+~Effect()
+initialiseSprite()
+getSprite()
+setVisibility()
+getVisibility()
+setRow()
+setColumn
Bird
+Bird()
+~Bird()
+setupSprite()
+killSprite()
+speed:float
+is_released:bool
+bird_number:int
+is_killed:bool
Pig
+Pig()
+~Pig()
+setupSprite()
Obstacle
+Obstacle()
+~Obstacle()
+setupSprite()
Menu
+Menu()
+~Menu()
+initialiseText():bool
+setupSprite()
+getText(): sf::Text
+is_menu:bool
-text:sf::Text*
GameObject
-visibility:bool
+GameObject()
+~GameObject()
+initialiseSprite()
+getSprite()
+direction: Vector2
+speed: float
+setVisibility()
+getVisibility()
#sprite:sf::Sprite*

Discussion:

-More detailed classes and attributes.

-All sound effects are in one place instead of in different classes.

-BGM is in main game class instead.

-Menu interactables are in main game class.

-Effects do not inherit GameObject.