Period 1 Jalen Chen Sound Squares

## **Description**

A rhythm game where a song plays and squares approach you in a 3D-like space. The notes match up with the song. You have to track and hit squares using your cursor. Maintain high accuracy and a high combo to get a higher score. Like Rhythia or Sound Space.

#### **Functionalities:**

- Mapping (table of coordinates of squares for each note in the song)
- Song browser to select a song and to choose the difficulty you want to play the song in
- Increase speed setting = harder = higher score multiplier
- Decrease speed setting = easier = lower score multiplier
- A "click" sound is played when a square is successfully hit, and an "error" sound is played when you miss a square
- Statistics (#hit/#total, #missed, accuracy%, #combo) shown on the side, and time remaining shown on the top
- Change the colors/skins of the squares for personalization
- Change the color/skin of the cursor for personalization

### Libraries Needed:

- processing.sound.\*: to play and manipulate songs (increase/decrease speed), also to play "click" and "error" sounds
- processing.data. Table: to read the map and display squares
- ControlP5: song browser and settings

## How does it work?

Select a song from the song browser and choose the difficulty you want to play the song in. The objective of the game is to hit as many squares as possible while maintaining high accuracy and a high combo to get a higher score. You move your cursor onto a square to hit it. You just need your mouse to be hovering over the square at the right time. You do not need to click. This game requires good tracking skills with the mouse and the ability to read the notes quickly and ahead of time.

# **UML Diagram**

#### SoundSquaresGame -notes : ArrayList<Note> -soundFile : SoundFile -stats : StatsManager -speedMultiplier : double -selectedSkin : SkinOption -selectedCursor : CursorOption +setup(): void +draw(): void +loadMap(filePath : String) : void +checkHit(cursorX : int, cursorY : int) : void +displayStats(): void Note -x:int -y:int -timeStamp: double -hit : boolean +display(): void +update(currentTime : double) : void +checkCursor(cursorX : int, cursorY : int) : boolean StatsManager -totalNotes : int -hits : int -misses: int -accuracy : double -combo: int +addHit(): void +addMiss(): void +updateAccuracy(): void SkinOption +resetCombo(): void -id: int -name: String SoundManager CustomizationMenu -color : Color -clickSound : SoundFile +apply(): void -skinOptions : ArrayList<SkinOption> -errorSound : SoundFile -cursorOptions : ArrayList<CursorOption> -musicTrack : SoundFile +selectSkin(index : int) : void CursorOption +playClick(): void +selectCursor(index : int) : void +playError(): void -id: int +applySkins(): void +getTime(): double -name : String -imagePath : String +apply(): void