

# Computer Vision Game

## Finger Saber

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# Rhythm game

- **Rhythm game** or **rhythm action** is a genre of **music-themed** action video game that challenges a player's sense of rhythm.



# Basic Idea

1. Get a frame from the camera by openCV
2. Detect the hand by mediapipe
3. For each hand detect the collision with brick in the screen
4. Change the brick status and record the score
5. next frame

# Class: Sheet

- Brick time & position
- Get next brick by the given time



# Class: Button

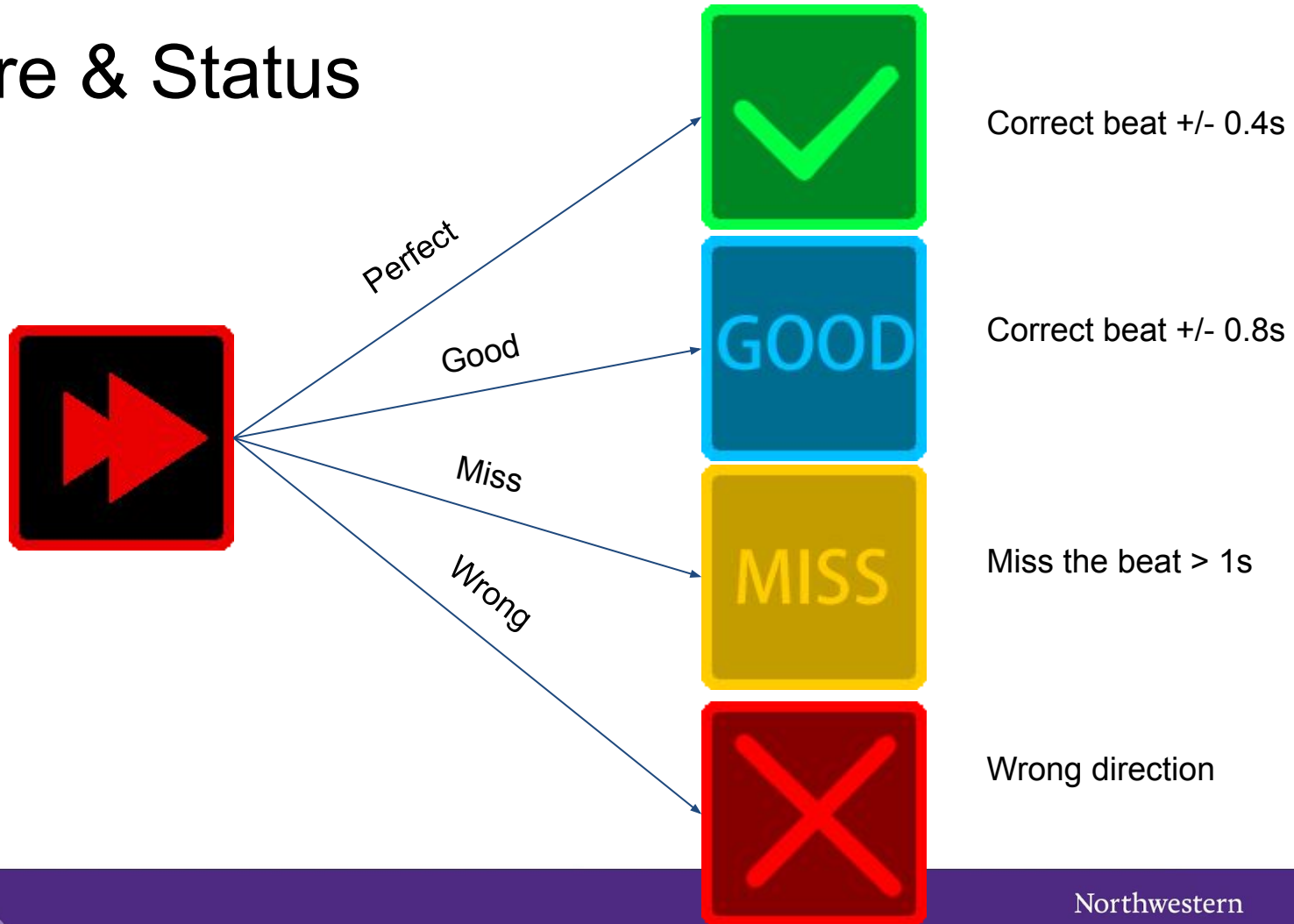
- Texture
- Hitbox
- Is clicked



# Class: Brick

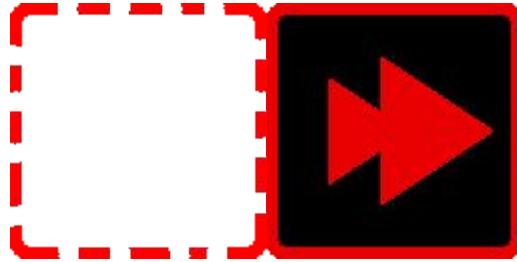
- Texture & Status
  - Brick
  - Perfect
  - Good
  - Wrong
  - Miss
- Hitbox
  - Brick hitbox
  - Direction hitbox
- Sound Effect
- Lifespan

# Texture & Status



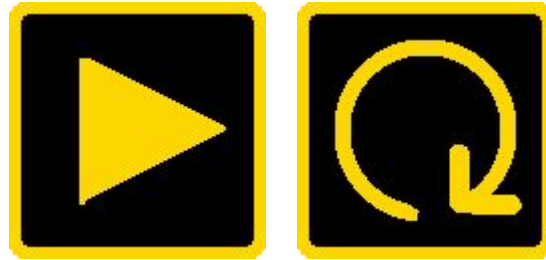
# Hitbox

Invisible Direction hitbox



Brick hitbox

# Button Texture







DEMO

# Next

- A game control class
  - Lower coupling
  - Switch the phase of the game
  - Detail of the score
    - Accuracy
- Better algorithm
  - detection improvement
  - FPS improvement
  - direction detection