

# CSC 561: Principles of Computer Graphics

## Assignment 5 Readme

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### Frogger Game:



#### 1. Description:

Froggy went to explore the nearby city and got lost. He needs to get home before dusk, or else his family will be worried for him. Help Froggy reach his home in the rainforests safely! Be careful, the road is full of traffic, and if he hits a car he will die. After avoiding cars, he needs to cross a huge river before reaching his home. Froggy hasn't learnt swimming, so he needs to hop on a log or ask a turtle friend for assistance. After crossing the river, voila! You've helped him reach his home safely. Collect stars to increase your score and beware of scorpions on the way!

#### 2. Screencast link -

<https://cgclass.slack.com/archives/C01DHQATFR8/p1702187236272959>

#### 3. Instructions to download three.js

Instructions to download three.js are here:

<https://threejs.org/docs/#manual/en/introduction/Installation>

I have used Option 2, Import from CDN for this assignment.

Instructions to run the code:

- Download live server extension for VSCode. Running on a local server using this extension, to avoid CORS error..
- Press ! to switch between custom and default image
- Ensure textures folders exist for the custom game to be rendered.
- Refer Legend for keyboard instructions
- Refer rules for custom elements to understand how to interact with them.
- Refer extra credits sections to see a list of extra credits attempted.
- Refer outputs to see the original vs custom game outputs.

#### 4. Legend

To move use:

Forward - w  
Backward - s  
Right - d  
Left - a  
Change camera - c  
Reset Frog - r

## 5. Rules for customized elements

Some elements are different from the usual game. The instructions to interact with them are as follows:

- Stars (yellow spheres) - you can collect them on your way home. Each star provides +50 score. You can collect them only once, after which they do not add to your score. Collected stars will become blue.
- Scorpions (small red boxes) - scorpions can sting froggy, paralyzing him for 1.5 sec. Avoid them as much as possible!

## 6. Extra Credits Attempted

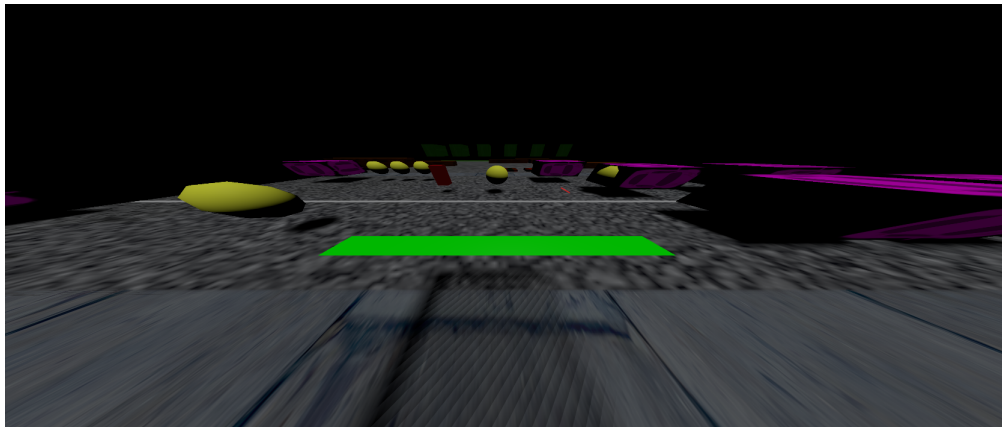
Extra credit attempted are as follows:

- Addition of description and screencast video
- Tracking and display of score

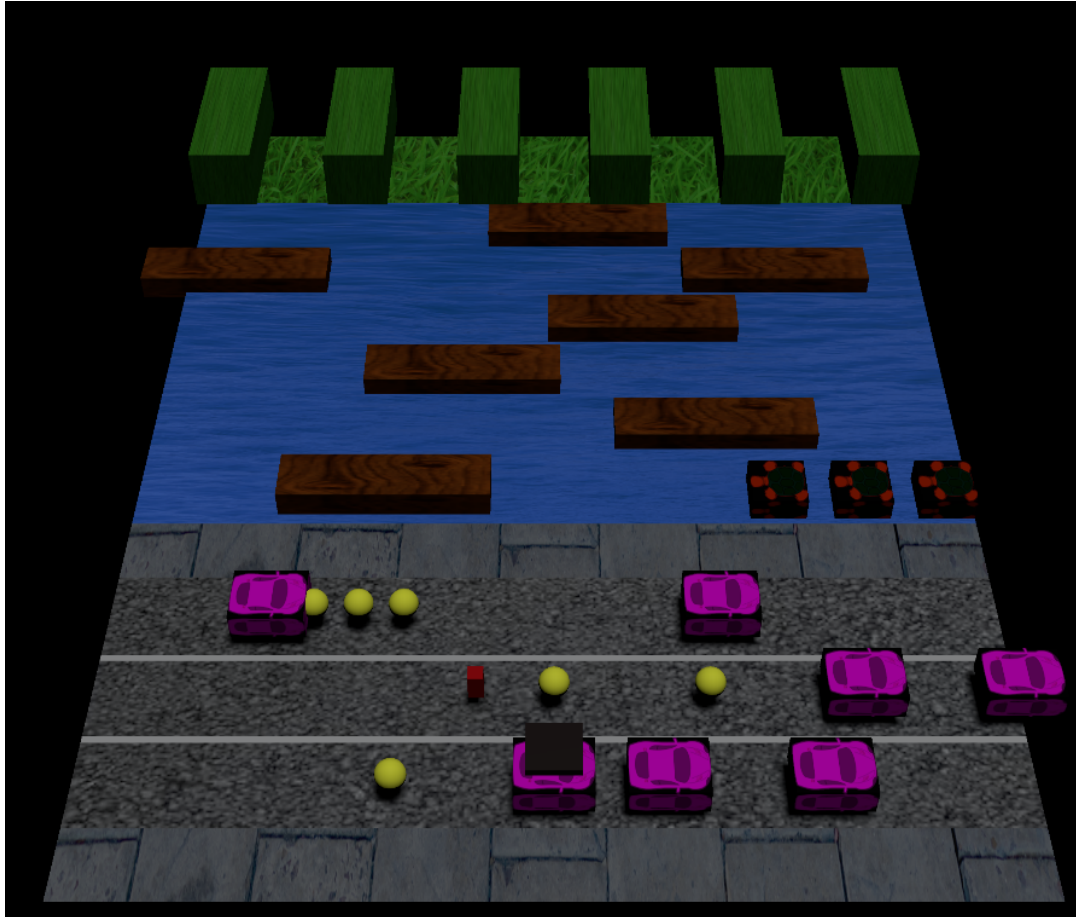
Level: 1 | Lives: 3 | Wins: 0 | Score: 0

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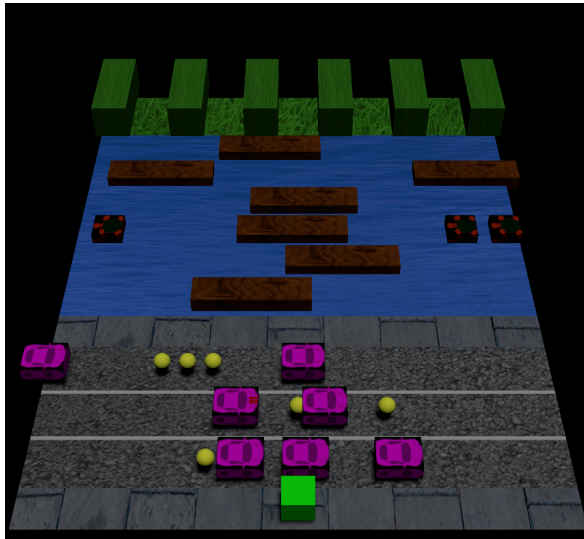
- First person view (use c to switch)



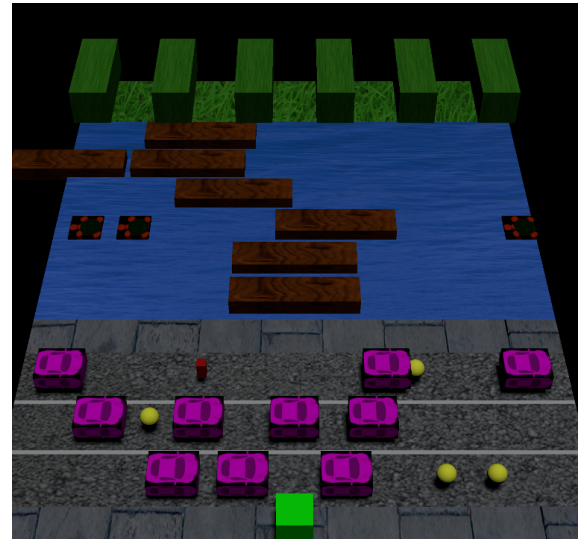
- Animated effects when frog dies - freeze frame, and change of color  
Frog changes color to black when dead.
- Added music when froggy moves, splunks or is squashed



- Added 1 more level with more cars driving at higher speed, and logs flowing faster.



Level 1

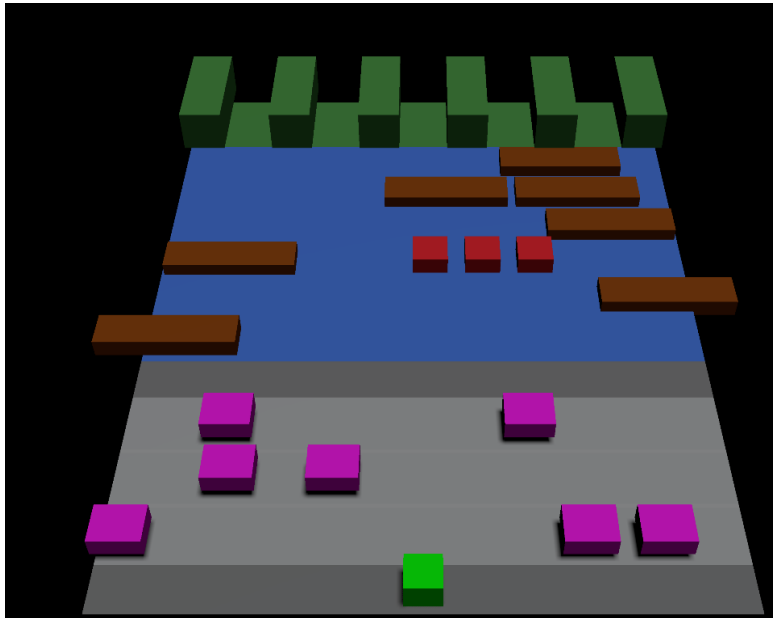


Level 2 (more and faster cars, logs)

- Added 2 power-ups: score boosting(stars) and freeze(scorpions)

## Outputs:

Part 1-5: Basic Frogger game



Part 5 + extra credits: For Make it your own part, I added textures for cars, logs, river, road, sidewalk, homes. Froggy can now collect stars, and scorpions can sting to paralyze him.

