

Stephen Kaplan
Mike Scott
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Frogger Instruction Construction

Start:

- Opening Sequence (Short animation, similar to starting a game on consoles would have skippable animation before start menu)
- Start menu
 - Play
 - Settings
 - Exit
- Need some kind of way to easily make/manage buttons (Class?)
- Need some kind of way to easily manage scenes
 - Array of scenes -> Each scene has own set of buttons, images (if needed), and game elements
 - Set number of scenes, perhaps 10 for now
 - Select scene with number
 - After clicking play, user selects scene with arrow keys, then hits enter to begin (or can click start button)
 - loadScene() function directs program to specific scene object, calls its display(), updateObject(), showMenu(), and showUser() methods
- Settings menu has text size, music volume, window size, and key control settings
 - Default keys: arrow keys. Can change to WASD
 - Three text sizes: small (10px), medium (15px), large (20px)
 - Music volume: Off, quiet, loud
 - Window size: 500x350, 800x500, 1000x650, Full Screen
 - Change size of window when user selects different mode.
- Navigate menus with keys

Gameplay:

- 5 lives to start with
- All elements (Logs, frog, grass, cars, etc) have images/generated shapes that add an immersive feel to the game
- Frogger moves 1 block per key press (void mousePressed() rather than conditional statement in draw function).
 - Can only move forward/left/right, not back
- Frogger (player) starts at center position on bottom row of blocks (1 row of grass field)
- User jumps using arrow keys to different positions
- Sound effects

- Jumping sound
- Landing on grass/road/log/lily pad/etc
- Colliding with car
- Falling in water
- Losing life
- Victory jingle
- Losing jingle
- Rows of road with moving car objects
 - Different amount of rows depending on level
 - If user collides with car, Frogger loses life. Restart level at start position. No points added to score
 - Higher level, faster cars
 - Cars have slightly random size and velocity, but are all similar enough that easy levels go slower on average and harder levels go faster
- One row of “calm” grass field in between
- Rows of river with moving log, lily pad, turtle, and alligator objects
 - User must jump to available space
 - If user falls into open river water -> Lose life, restart level
 - If user lands on turtle or lily pad above water, safe, move with object
 - If user lands on turtle or lily pad below water, lose life, restart level
 - If user lands on log, safe. Move with log.
 - If user lands on head of alligator, lose life, restart level
 - Different amount of rows depending on level
 - Higher level -> more rows of river
 - Turtle move opposite direction from everything else in river
 - Everything in river except turtles travels at same velocity
 - If user is pushed to edge of screen, lose life and restart
- One row of forest in at end with safe and dangerous spaces
 - 3 safe spots
 - Time-based blockers in the safe spots
 - User cannot move to forest block if there is no available space. If they land on a blocker space, lose life & restart. If they simply can't move, they stay on the log/lily pad/turtle and flow down the river.
 - 500 points for completing level
- Various bonuses added to random blocks
 - 100 Extra points
 - 200 Extra points
 - Double points
 - Extra life
 - 0.5x speed of cars/river

Levels:

- Read level design from folder of text files

- Generate a level for each text file
- Text files contain array of characters which correspond to grass, river, forest, safe spot, blocker, and bonus tiles
- This makes it so you can add new levels without reprogramming the game

End Screen:

- Read current high score info from text file
- If life count is >0:
 - "You win!"
 - Score vs. high score
 - If score > high score, enter nickname to keep record of who currently has the highest score
 - Store high score info in text file
 - Thanks for playing, victor's message
 - Offer to play again
- If life count = 0:
 - "You lose"
 - Score vs. high score
 - Offer to play again, user can click, use arrow keys, or press Y/N to respond. Yes will start them over at level 0, no will bring them back to the start menu