Mid Term Presentation: Tron(Light Cycle)

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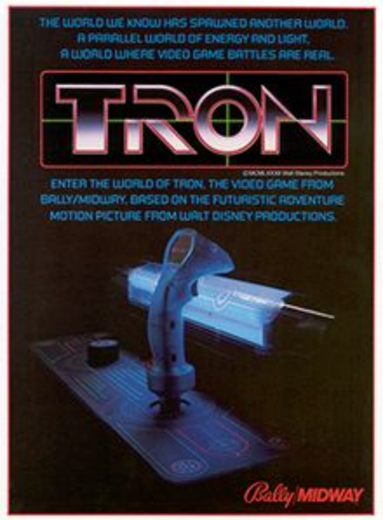

THE WORLD WE KNOW HAS SPAWNED ANOTHER WORLD.
A PARALLEL WORLD OF ENERGY AND LIGHT,
A WORLD WHERE VIDEO GAME BATTLES ARE REAL.
TRON
ENTER THE WORLD OF TRON, THE VIDEO GAME FROM BALLY/MIDWAY, BASED ON THE FUTURISTIC ADVENTURE MOTION PICTURE FROM WALT DISNEY PRODUCTIONS.
Bally MIDWAY

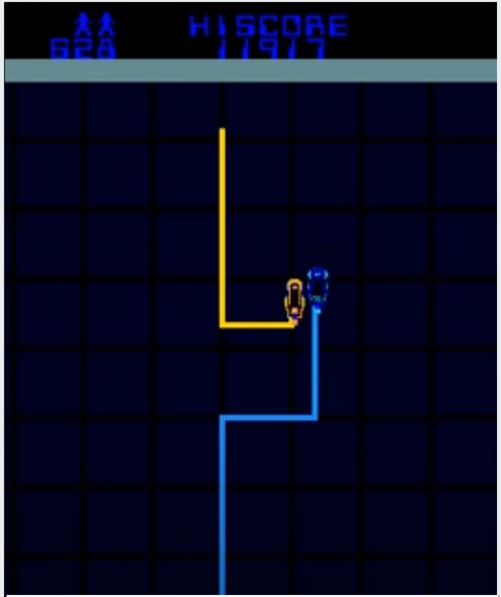
Current State of Disarray

Things completed:

- Bike Movement
- Retrieved sprites from the internet, cleaned up with external image editing
- Score? From lab 4?
- Behind the scenes stuff
  - Rendering component
    - Replacing sprites when needed for gameobject
- Waw really not a lot i expected more

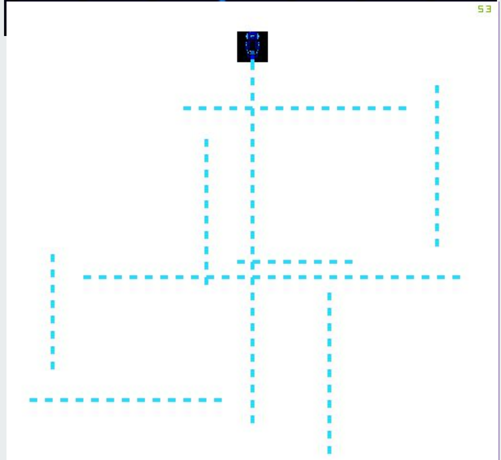
Tron Expectation:

- Player vs multiple enemies
- Can crash into walls and edge
- Win if all enemies gone
- More enemies in later levels
- Player can speed up
- Only 1 of 4 minigames



Tron at Home:

Nothing working, really.



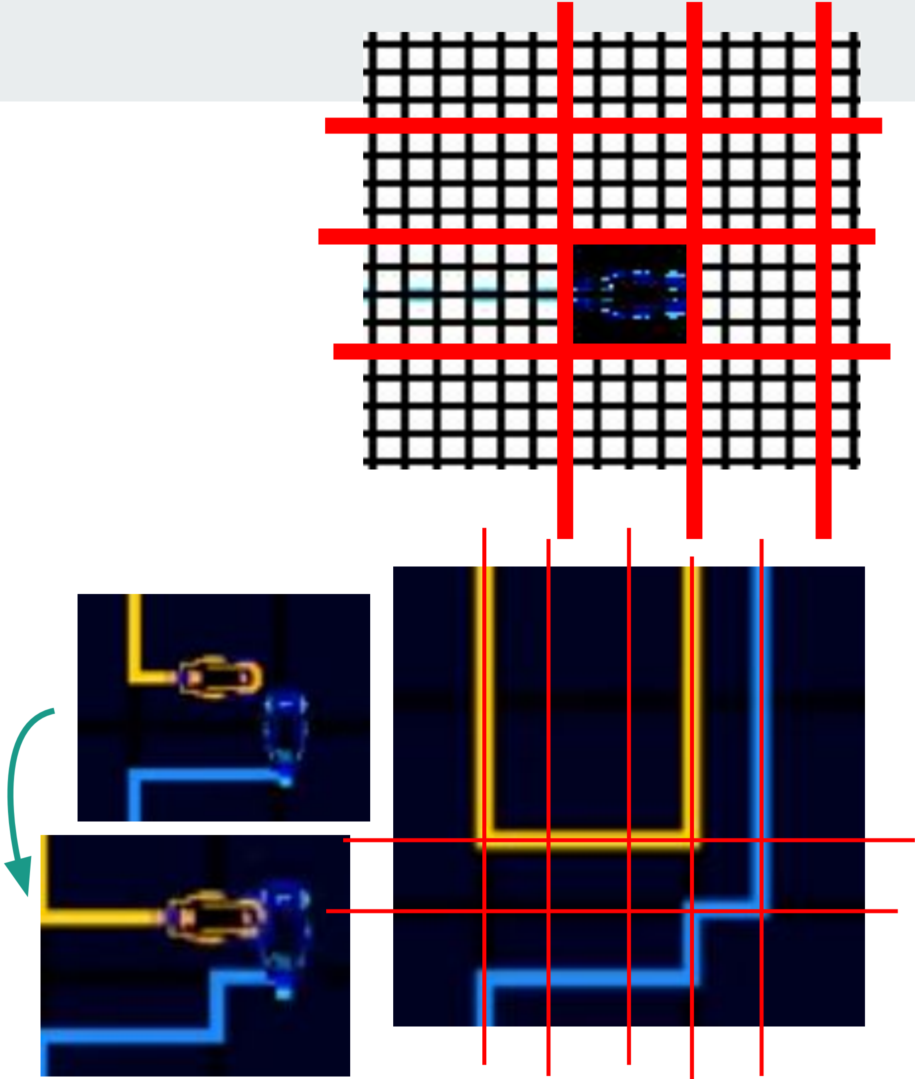
Problems Encountered(1)

Grid-like movement

- Bikes in original game look like they snap to an invisible grid - added timer to move 4 cells per frame
- Being able to **change speed** creates problem
- As if there are 2 grids overlaid on top of each other?
- I don't even know what the problem is
- Theory - during gameplay this will not be a problem because walls need to be avoided

Input taken faster than FPS

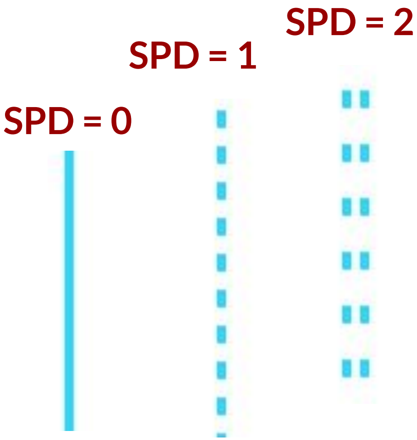
- Original can take 2 inputs but update once
- Implemented timer in Bike object, but restricts input



Problems Encountered(2)

Walls

- Objectpool does not seem like good idea
  - Gaps happen when speed goes up, because wall “pieces” are constant size
  - Inefficient - 500 wall objects ^ 2 collision detection
    - Without checking CD it still lags when creating 500 walls constantly
    - Can fill in spaces when speeding up, but 3 walls required for 1 frame



- Original has strange specific movement behaviour
  - Move first, then plant wall
  - Wall is therefore 1 frame “behind”?

CD

- Original seems to have very tight CD, as shown last slide
- Hitbox smaller than sprite

AI

- Haven’t even started, don’t know where to
- Only know original had fixed behaviour
- Cannot find documentation or description

Prioritized Features to Implement

1. Fix Grid-like Movement
2. Fix Walls to connect properly
3. Implement Collision Detection
4. Implement Enemies
    a. Implement Enemy Behaviour
    b. Implement Multiple Enemies
5. Increasing Levels(1,2,3 Enemies)
6. Sound
7. Score, Background
8. Choose Additional Feature if there is time
9. Optimize Performance/Architecture

Unrealistic but no other way Roadmap

Week 1

Week 2

Next Course

Possible Additions if Time Permits

2 Players, same computer

Adjustments

- Speeding up taking longer to turn, etc

Additional Features

- Melee with disc?
- Extra life, jump over wall if hits wall
- Monster Truck Light Cycle
- Crash into own wall because face it none of these additions are going to be implemented and time does not permit anything

Thank you?