Registration Rush: Florida Tech

Team 2:
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Goals

- Accurate beat detection
- Strong Core Elements tying things together
  - Rhythm is central to each game
  - Affectionate Parody of FIT Campus Life
Models

- Modeling
- Textures
- Characters
- Skeletons
Models
Models
Models
Models
Models
Music

3MLE Editor 2 – 3mle.jp
Music

LMMS 1.1.3 – lmms.io
Music

Instrument plugins

Kicker

General Settings

Volume envelope

Gain

Length

Env. Slope

Start

End

Free. Slope

Click

Start Distortion

Noise

TripleOscillator

General Settings

TripleOscillator

Plugin ENV/LFO

FUNC

FX

MIDI
Music
Music

- **Freeboy**
  - Emulation of Gameboy APU
  - Sound channels
    - Two square waves
    - Programmable wave table
    - Noise generator
  - Used in:
    - Game Boy
    - Game Boy Pocket
    - Game Boy Color
Note Generation

- Difficult with Unity Audio Functions
- GetSpectrumData
  - Nonsense Data
GUI

- Contrary to Audio, UI is Incredibly Easy
- Health Icons, Hit Indications
  - Look good, work well
Note Hit Detection

- Generate notes into their respective highway queues
- Destroy notes as they fall off screen
- Destroy notes on hit
- Detect whether they are perfect, good, okay, or miss depending on how far away they are from target zone
- Scoring algorithm, including multiplier
Note Hit Detection

Perfect!

Score: 1650
Babcock Frogger

- **Unique Components**
  - Both musically and randomly generated objects
  - Randomized texturing of vehicles
  - Moving platform capture of player
  - Collision and triggering system
Babcock Frogger: Music Car Generation
```csharp
void Start()
{
    // speed of platform
    carSpeed = 14;
    // decide where destination is
    SetDestination(endPoint);
    // store original spawn location
    originLocation = gameObject.transform.position;
    // set distance car can traverse before being deleted
    traversalDistance = 120;
    // set the number of available materials
    numAvailableMaterials = 8;
    // create database of available materials for jeep
    availableMaterials = new string[numAvailableMaterials];
    availableMaterials[0] = "JeepMaterials/ambulanceJeep";
    // call random number generator to select material for chosen car
    int chosenMaterialNum = Random.Range(0, numAvailableMaterials);
    Material chosenMaterial = Resources.Load(availableMaterials[chosenMaterialNum]) as Material;
    // get JEEP BODY child of jeep to set new body material
    Transform jeepBody;
    jeepBody = gameObject.transform.FindChild("JEEP_BODY");
    jeepBody.gameObject.GetComponent<Renderer>().material = chosenMaterial;
}```
Babcock Frogger: The Cars

[Images of colorful cars with different designs and characters inside]
Babcock Frogger: The Traffic
Babcock Frogger: The Traffic
Babcock Frogger: Platform Generation
Babcock Frogger: Player Capture on Moving Platforms

```csharp
public class HoldCharacter : MonoBehavior {

    // this script makes the character a child of the platform so that
    // it inherits the platform coordinates rather than the global ones.
    void OnTriggerEnter(Collider col)
    {
        col.transform.parent = gameObject.transform.parent.transform;
    }

    void OnTriggerExit(Collider col)
    {
        col.transform.parent = null;
    }
}
```