

# Take a Virtual Hike

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# Engineering Standards

- IEEE 1448a-1996 - Standard for Information Technology - Software Life Cycle Processes
  - Establishes a common framework for software life cycle processes, with well-defined terminology, that can be referenced by the software industry
- IEEE 12207-1996 - ISO/IEC International Standard - Information Technology - Software Life Cycle Processes
  - Provides a common framework for developing and managing software. This standard provides industry a basis for software practices that would be usable for both national and international business

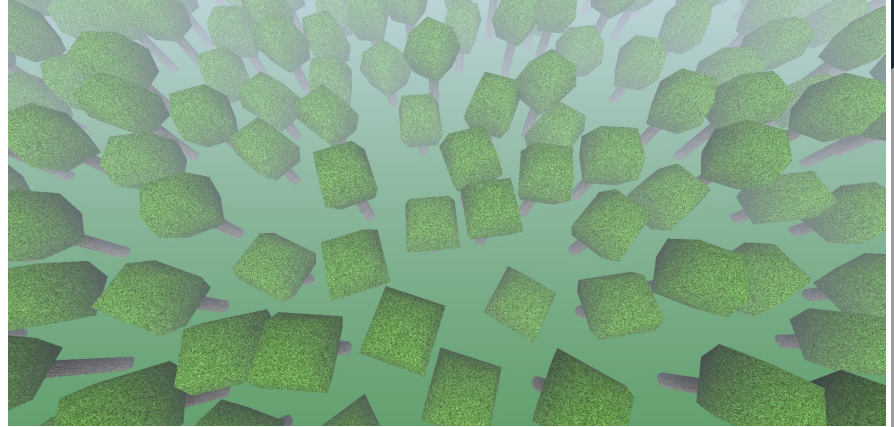
# Engineering Requirements

- The User shall be able to load into a virtual Environment upon startup
- The application must contain elements of procedural generation
- The User shall be able to move around and explore the world freely using a fly-through and walk-through mode
- The environment must include collision detection
- The environment must be 1:1 scale with reality
- The environment must have a soundscape feature for the environment
- The application must run on a reasonably priced and attainable computer.

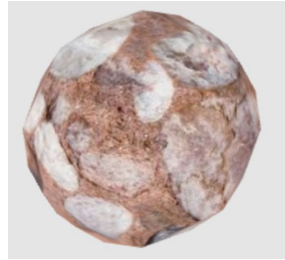
# Engineering Constraints

- Use of THREE.js limits the programming language to JAVA Scripts.
- Required to be a web application
- Achieve the Engineering requirement of running on a reasonably priced and attainable computer.
- Time constraint: 2 semesters to get project done

# Tree Generation

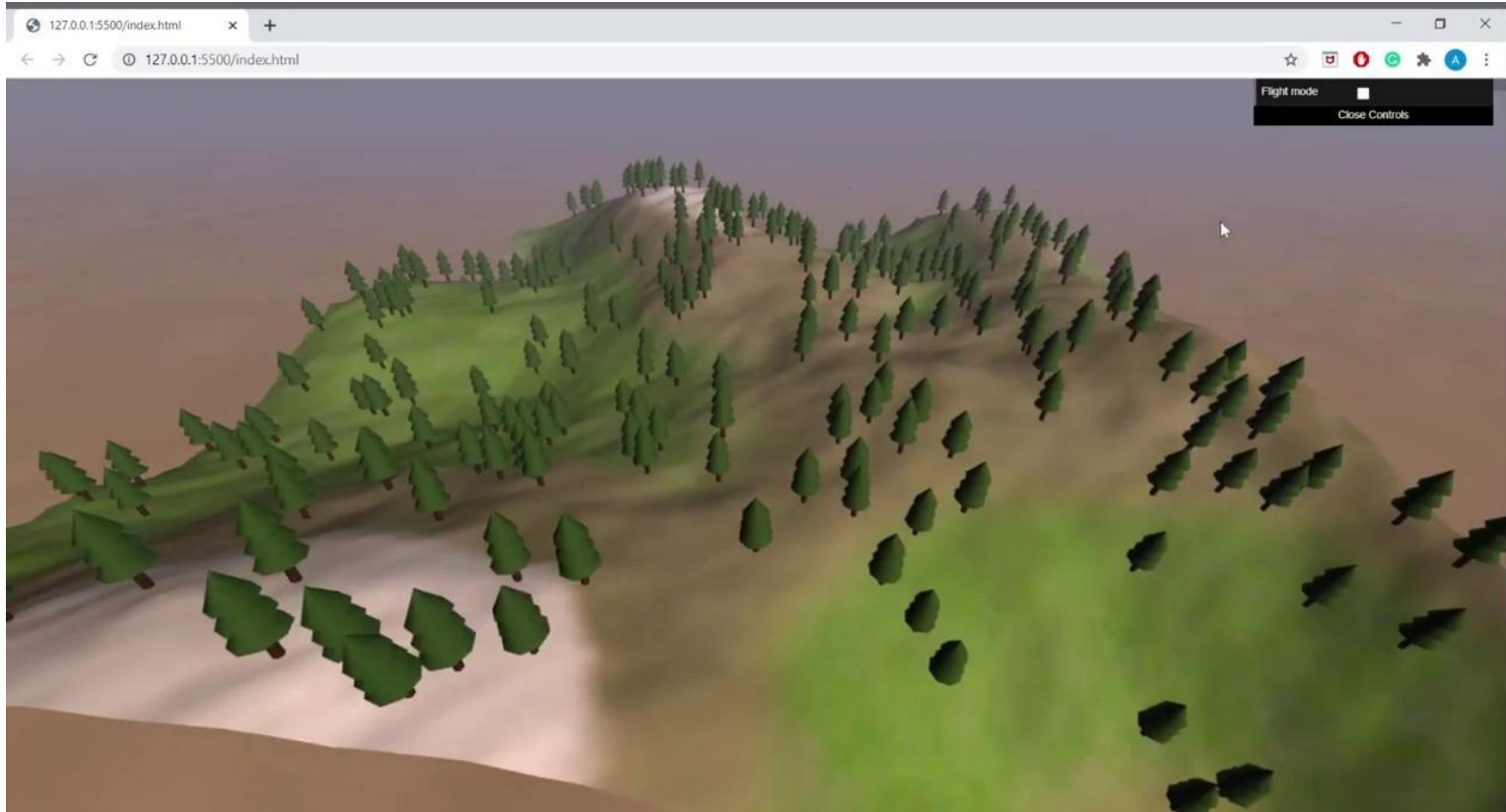


# Generate Bushes and Rocks

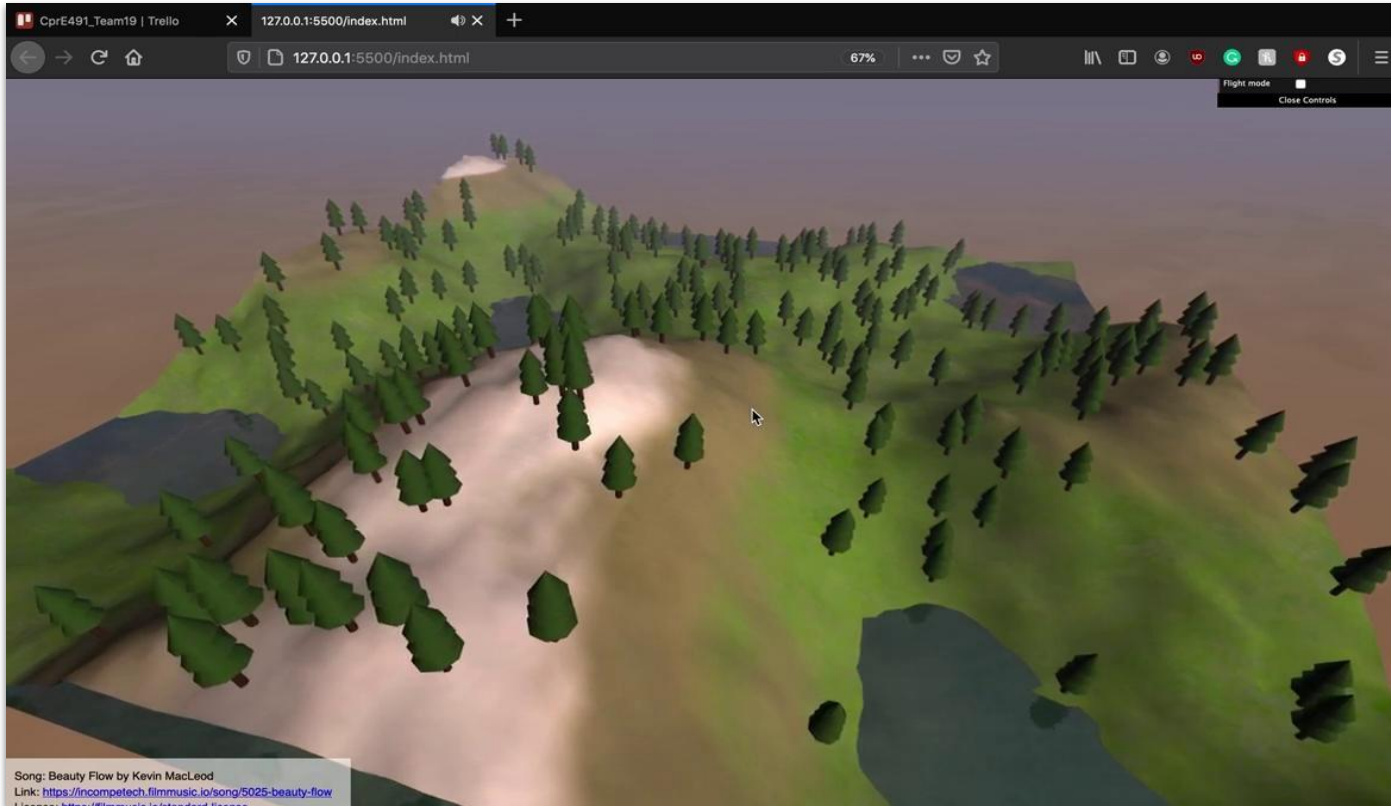


```
/**
 *
 * @param {*} size
 * @param {*} color1
 * @param {*} shape
 */
function makeRock(size,color1,shape){
```

# Terrain Generation

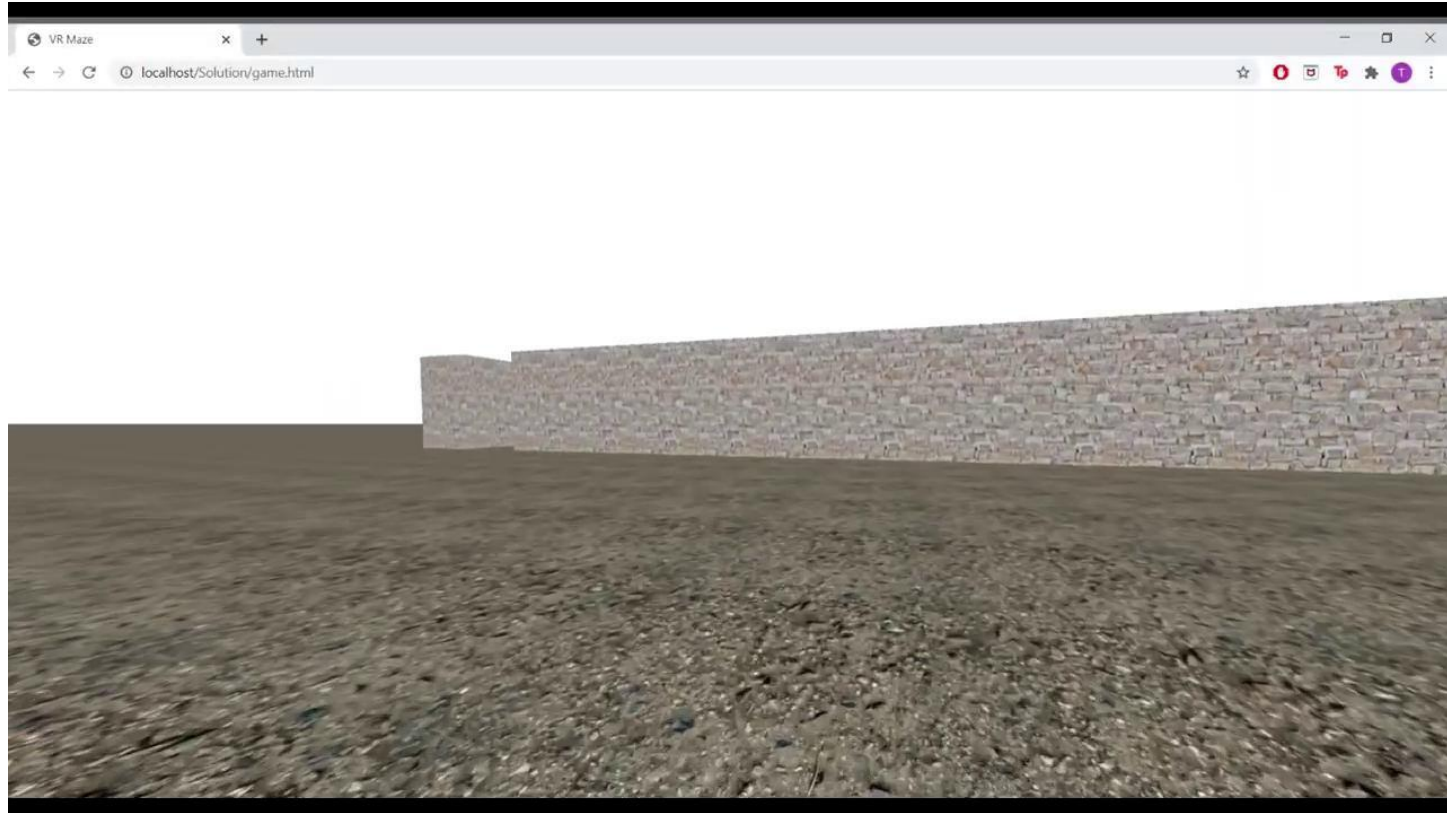


# Water Generation and Soundscape





# First Person Movement



# What's Left

- Merge individual branches
- Fix conflicts and debug
- Develop user experience
  - GUI (main menu, help menu, settings, etc)
  - User options
- Incorporate additional specifications
  - Develop more intricate terrain and objects (trees, rocks, water, etc)



Thank you for listening!

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