

CS410 Intro

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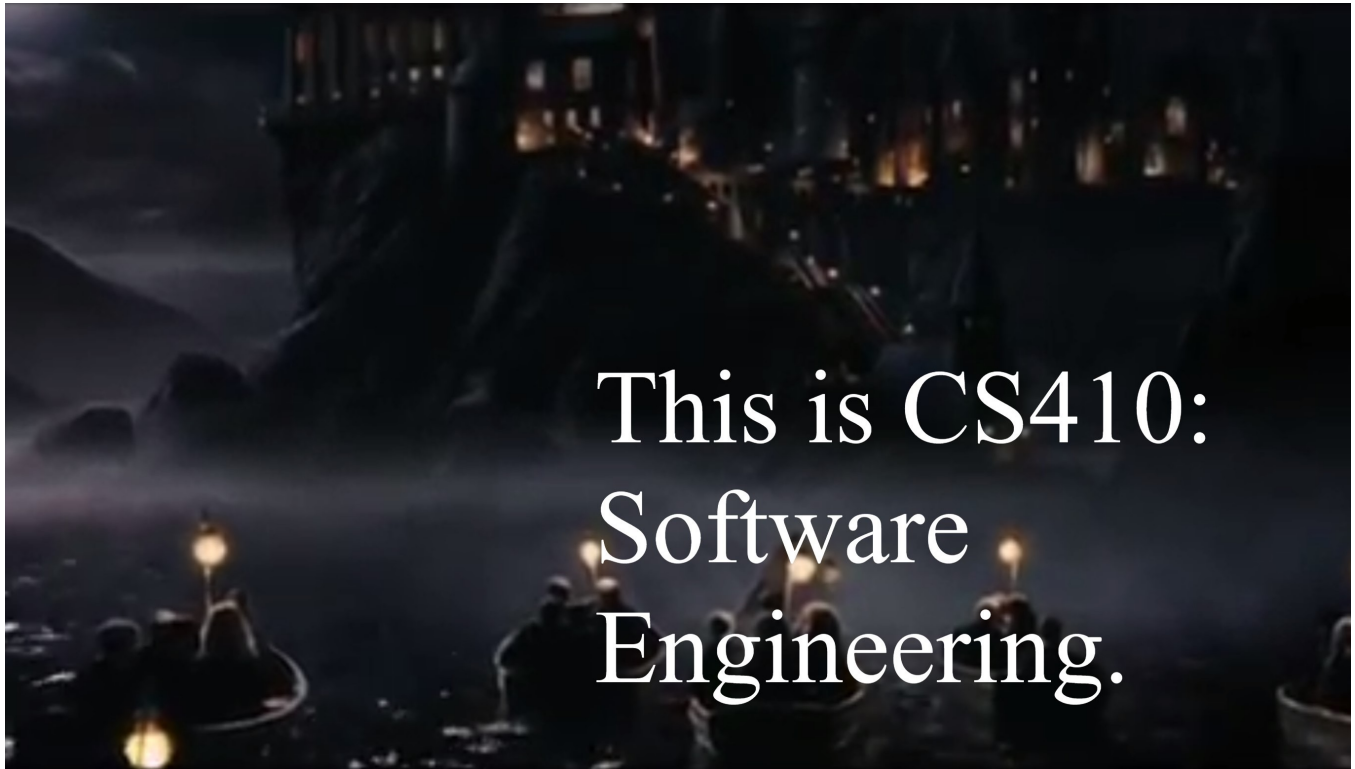


Figure 1: CS410 Intro Image: Hogwarts

ABSTRACT

The introduction video of class let student know what are they going to learn today by fun and interesting view. This video can grab student's eyes and make they want to learn new topic. Using XTK, Three.js, HTML, and CSS we made a video of introduction of CS410. There are some challenges we faced but we made a video with Harry Potter spirit.

KEYWORDS

WebGL, Visualization, XTK, Three.js

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1 INTRODUCTION

The good lecture needs good introduction. The video which introduce every class is one of the good way to grab student's eyes and make them concentrate. The CS410 Intro video used Harry Potter theme to increase student's interest. Jenna worked on intro, money storm and Hogwarts part.

2 RELATED WORK

The related work is XTK [3] and Three.js [2]. Our work extends professor's intro video code and integrates what we learned in the class. We have used songs and film clips from Harry Potter[1] to make the intro more interesting.

3 METHOD

Using CSS and HTML, we insert music, video and set standards of using those as background element. Also, HTML is used to write introduction words. The XTK is used to make cube for CS410 logo which starts this video. Three.js is used for money storm and Hogwarts scene.

3.1 Implementation

To make the scene move, every elements need to be show and fade away on right time. For that, `.visible` and `setTimeout()` is used.

```
pc.visible = false;
mesh.visible = false;
setTimeout(rotate_cs410, 2000);
```

The canvas problem was handled on JavaScript as follows.

```
renderer.domElement.style.position = 'absolute';
renderer.domElement.style.top = '0px';
renderer.domElement.style.left = '0px';
```

Since there is background music already, the video should be quite. Also, if sound is on, the video does not inserted. So I mutes the video by adding code as follows.

```
<video controls muted id="video2" loop crossOrigin=
"anonymous" webkit-playsinline style="display:none">
  <source src="Hogwarts.mp4" type="video/mp4">
```

3.2 Milestones

3.2.1 Milestone 1. The team brainstormed different designs on notebook and Google Doc and then choose the best cut.

3.2.2 Milestone 2. The team worked separately but connected through Google Doc.

3.2.3 Milestone 3. After Fast Forward, team got better idea on the project. Also, checked each other's work and get helped.

3.2.4 Milestone 4. Made every scene and worked on connect all of the scene in one file.

3.2.5 Milestone 5. Check the final video and write a report.

3.3 Challenges

The team got few challenges as follows.

- Challenge 1: Connecting every different scene smoothly. For example, the background scene moved to Hogwarts but still can see the money storm video and Ron's head on the screen. Also, had difficulty to show up words above the video.
- Challenge 2: Handling canvas by JavaScript. It was new idea for me to write a code instead of using CSS.
- Challenge 3: The team had meeting every time after class but still run out of time before the submission(Fast Forward, Intermediate presentation).
- Challenge 4: Making Skybox to explain about in-class activity with real work experience but couldn't make it because of time limit.

4 RESULTS

The 32 seconds long of video was made to introduce Software Engineering class. The music worked smoothly but the background video is slow and low quality. The last scene, Harry Potter and friends are on boat and get into Hogwarts, will make students feel they are also in Hogwarts and that will make students enjoy the class.



Figure 2: Ron watching Money Storm

5 CONCLUSIONS

In this project, we made video using JavaScript. The purpose of making the software engineering introduction video is increase student's focus and make them enjoy class. The team implement it by XTK and Three.js under Harry Potter theme. In future work, we can increase the quality of background video and add more scene to explain about this class.

REFERENCES

- [1] 2001. Harry Potter And The Philosopher's Stone.
- [2] Ricardo Cabello et al. 2010. Three.js. URL: <https://github.com/mrdoob/three.js> (2010).
- [3] Daniel Haehn, Nicolas Rannou, Banu Ahtam, P. Ellen Grant, and Rudolph Pienaar. 2012. Neuroimaging in the Browser using the X Toolkit. *Frontiers in Neuroinformatics* (2012).