CS 6334 Virtual Reality

Preliminary Prototype (15 points)

Submission due by Sunday, April 9 at 11:59 pm CT

Demo in class on either Monday, April 10 or Wednesday, April 12

Purpose

The goal is to provide evidence of and demonstrate the current state of your team's prototype for feedback

Building a Preliminary Prototype

- In Paper Prototype, you built an interactive paper prototype to conceptualize your idea and test it out with early feedback from users. Now, it's time to turn your paper prototype into a real VR application.
- Create a VR application that addresses the preliminary goals of your team's project. Name the project according to your team's number (i.e., Team01).
- Your preliminary prototype will be evaluated based on i) basic requirements, ii) prototype quality, iii) demonstration, iv) documentation, and v) feedback report for other teams. We understand that it's still an early stage of the work, and thus, we will not evaluate the advanced requirements at this time. However, you should implement at least one advanced requirement by now.
- Please make sure that you focus on those areas and work efficiently. Have a solid plan and communicate with your team clearly. Use a project management tool if necessary to boost your team's productivity.

Preparing for Demo

- Demonstrating your work is a big part of this project as user experience is essential in VR! We will have two demo sessions (April 10 and 12) during the class to demonstrate your preliminary prototype to the instructor and other students. Schedule is as follow:
    - Monday, April 10: Team 11 through Team 20
    - Wednesday, April 12: Team 1 through Team 10
- All students should arrive at the class by 2:30 PM. Late will be marked.
- In each demo class session, the demo will start at 2:40PM. Students with a demo scheduled should prepare the demo and get ready by then. Make sure that your demo works during your scheduled date/time.
- Other students should visit at least 3 or more teams to experience the demo and write up the usability issues that you discovered on a feedback report. The feedback report paper will be distributed at the beginning of the class and collected at the end of the class.
- The location of the demo spot for each team will be announced at the beginning of each demo session.
- Please note that the instructor and a TA will have priority for the demo experience as we have a greater number of the demo to try.

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Documentation and Video

- Create the following documents in PDF:
    - Create a "Source" document that provides a unique URL for where you obtained each virtual object and sound file. If your project uses any third-party SDKs or open-source software other than Unity and Google VR SDK, you must include unique URLs to download the SDKs and explain details about how it works in your project.
    - Create a "ReadMe" document that explains which Unity scene contains your preliminary prototype. The document must explain what the interaction techniques are and how to use them with the Android phone and controller. If you're using other types of VR equipment in addition to Android phone, you must explain what the interaction techniques are and how to use them with your equipment along with the model's name of the equipment. If your project involves multiplayers, you must explain how to operate with multiple devices. Also, include a YouTube link of your video.
    - Create a "Team" document that lists the names of your team members and describes the tasks that each member was assigned and contributed to.
- Prepare a video
    - Prepare a video demonstrating your preliminary prototype to highlight all the key features and requirements that you implemented (less than 2 minutes). This should be a walkthrough of your virtual world with all the interactions you implemented so far. The video should have either narration or subtitles to make it understandable. The minimum resolution for the video should be 480p (640 x 480). Upload your video to YouTube and share a link in the "ReadMe" file.

Team Submission

- Clean up your Unity project by removing any unnecessary assets from the "Assets" folder and deleting the project's automatically generated "Library," "obj," and "Temp" folders. Build to generate APK file. Save it as preliminary.apk. Your submission must be 800 MB or less. (Please contact the professor and TA immediately if your submission is over 800MB). Your project will be evaluated on the target device (not Unity Editor). Please make sure your submission is sufficient to build a working app on the target device.
- Create a zip file (.zip) that contains your entire Unity project folder, your "Source" document, your "ReadMe" document, and your "Team" document. Do NOT use any compression file types (e.g., .rar, .7z, .tar) other than .zip. Such submissions will NOT be graded, which will result in 0 points.

Individual Submission

- Download a peer evaluation form from Project->Preliminary Prototype - Peer Evaluation.
- Fill out the form and submit it to Project->Preliminary Prototype – Peer Evaluation.
- Submission should be made by Sunday, April 9 at 11:59 PM CT (1 point deduction for late/no submission).

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Grading

This assignment will be scored as indicated below. The maximum possible score is 15 points.

- ☐ Requirements (4)
  - Exceptional (4 points)
    - Most of the basic requirements are working with all the functions and features without any issues
  - Good (3 points)
    - Many of the basic requirements are working without any issues. Some shows minor issues
  - Satisfactory (2 points)
    - Some of the basic requirements are working, but some are not
  - Unsatisfactory (1 point)
    - Many of the basic requirements are not working and many still remain to be done to evaluate the functions

- ☐ Prototype Quality (3)
  - Good (3 points)
    - The prototype is intricate and well-created. It is creative and unique, with very high quality
    - It is easy to learn and use
    - It runs smoothly without any errors or strange behavior
  - Satisfactory (2 points)
    - The prototype has quite a bit of detail, with satisfactory quality
    - It is easy to use once you learn it
    - It runs without major issues or errors
  - Unsatisfactory (1 point)
    - The prototype is too simple
    - It is not easy to use
    - It shows major issues or errors

- ☐ Demonstration (3)
  - Good (3 points)
    - The demo was well-prepared, and instruction was clearly delivered
    - The demo was running smoothly within a given time
  - Satisfactory (2 points)
    - The demo was prepared with some minor issues. Instruction was provided to show how it works
  - Unsatisfactory (1 point)
    - The demo was not prepared, or the application was non-functional

- ☐ Documentation & Video (3)
  - Good (3 points)
    - The document clearly shows descriptions of all necessary information. All the descriptions are clear to understand
    - Video clearly shows how to use the application with narration or subtitle
  - Satisfactory (2 points)
    - Basic documentation has been completed. Most of the information is clearly documented, but some are still unclear
    - Video shows a walk-through of the virtual scene and how to use the application but needs some effort to understand the content
  - Unsatisfactory (1 point)

- Very limited documentation is included. Documentation does not help the reader understand how the prototype works
- Video shows limited content. It is hard to understand how the prototype works by watching the video

☐ Feedback Report (2)
- Satisfactory (2 points)
  - The feedback report clearly shows 3+ usability issues in 3 teams
- Unsatisfactory (1 point)
  - The feedback report does not clearly show usability issues at all

Deductions

Deductions will be applied as indicated below. The minimum possible score is 0 points.

☐ Your submission is late. **2 points per day late**

☐ Your Source document does not contain necessary information. **5 points**

☐ Your ReadMe document does not contain clear instruction on how to run. **5 points**

☐ Your submission is not a .zip file. **15 points**

☐ Your Unity project does not properly work during initial grading. **5 points**

☐ You did not follow the specified naming conventions. **1 point per file or folder**

☐ You did not make a significant contribution to the submission. **7 points**

☐ You did not make any contribution to the submission. **15 points**

Academic Integrity

This is a team project and you are expected to work with your team only. Teams are expected to complete their own work. If found guilty of academic dishonesty, you will receive 0 points on this assignment. Below is a list of things that are considered as academic dishonesty for this submission:

Considered Academic Dishonesty:

- If you download and copy an already developed scene from someone else or from the Internet, it will be considered academic dishonesty. Copying the scene and making changes in it is still considered academic dishonesty. Please do not download and use the existing 3D constructions for your virtual world settings and environments (e.g., house, hallway, garden, etc.). We expect you to develop your own virtual world.
- Sharing your actual program code with other teams is considered academic dishonesty. You must not share the actual program code with other teams. You should not ask anyone to give you a copy of their code or, conversely, give your code to another student who asks you for it; nor should you post your solutions on the web, in public repositories, or any other publicly accessible place.

- You must not look at solution sets or program code from other years. Looking at solution sets or program codes from other years is a dangerous practice.
- Copying scripts directly from other teams or the Internet is considered academic dishonesty. Copying the script and making slight changes (e.g., variable names) still considered academic dishonesty.

Not Considered Academic Dishonesty:

- Materials, prefabs, and 2D/3D objects downloaded from Unity Asset store or other sources are allowed to use if they are not from other teams (including current and previous semesters). However, the source of the assets should be clearly described in a Source document.
- You can refer to scripting solutions on the Internet, try and understand it and then write your own scripts. However, the source of the scripting solutions should be clearly described in a Source document.

Every submission will be checked for plagiarism. If found guilty, you will receive 0 points for this project without any exceptions, and your case will be reported to the department and/or university for further action.

These descriptions and timelines are subject to change at the discretion of the professor.