

CAP 6110: Augmented Reality Engineering

Homework 1

Due Sunday, January 31, 2021 by 11:59pm
(10 points)

Purpose

Learn how to design and implement an AR application with tracked targets.

Directions

1. Create a Unity 2019.4.17f1 (LTS) project.
2. Add and configure Vuforia 9.6.4 to the Unity project.
3. Create a new scene in the project and save it as “Homework 1” under “Assets” > “Scenes”.
4. **Create an AR application with at least four tracked targets with associated virtual objects.** Acceptable types of tracked targets include image targets, cylinder targets, multi-targets, VuMarks, model targets, object targets, and the ground plane. A type of tracked target can be used multiple times (e.g., two image targets); however, each tracked target must be associated with its own virtual object to demonstrate that it is being tracked.
5. **Add at least one additional functional feature to your AR application.** Acceptable functional features include, but are not limited to interactions, physics, animations, and user interfaces.
6. **Create a screen recording or video with commentary demonstrating your assignment.** The video should be NO LONGER THAN 4 MINUTES, but should clearly demonstrate and explain the following:
 - a. Your AR application includes at least four tracked targets with associated virtual objects.
 - b. Your AR application includes at least one additional functional feature.
7. **Upload your video to YouTube as a Public or Unlisted video.**
8. Clean up your Unity project by removing any unnecessary assets from the “Assets” folder.
9. **Create a zip file (.ZIP ONLY) that contains your entire Unity project folder**, including all the folders (e.g., “Assets”) and files (e.g., “Project.sln”). **Your zip file must be 500 MB OR LESS.**
10. Submit the zip file through Webcourses under “Assignments” > “**Homework 1**” and **provide a comment that includes the YouTube link to your video.**
11. If you are interested in sharing your submission with other students, also provide a comment that states your video can be shared with others.

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Scoring

This assignment will be scored as indicated below. The maximum possible score is 10 points.

- ☐ Your AR application includes at least four tracked targets with associated virtual objects, and your YouTube video demonstrates each target. **+2 points per target (8 points maximum)**
- ☐ Your AR application includes at least one additional functional feature that is interesting, and your YouTube video demonstrates it. **+1 point**
- ☐ Your AR application is aesthetically high quality, and your YouTube video demonstrates it. **+1 point**

Deductions

This assignment will be deducted as indicated below. The minimum possible score is 0 points.

- ☐ ~~Your submission is late. -1 point~~
- ☐ Your submission is more than one week late. **-5 points**
- ☐ Your submission is more than two weeks late. **-10 points**
- ☐ Your submission does not include a YouTube link to your video. **-2 points**
- ☐ Your video is longer than 4 minutes. **-2 points and -2 points per 30 seconds over**
- ☐ Your submission is more than 500 MB. **-1 point and -1 point per 50 MB over**
- ☐ Your submission is not a .ZIP file. **-2 points**
- ☐ Your submission does not contain your entire Unity project folder. **-5 points**
- ☐ Your submission is not a Unity 2019.4.17f1 (LTS) project. **-5 points**
- ☐ Your assignment is not saved as “Homework 1” under “Assets” > “Scenes”. **-2 points**

Academic Integrity

See the course syllabus for course policies regarding academic integrity.

These descriptions and deadlines are subject to change at the discretion of the instructor.