

Team name: Group4_YU Navigation Map

Members:

Basic concept:

We decided to build an AR map on the York campus, and the projection will appear when you scan the building/sign on the campus. That is a kind of AR navigation camera that leads the students to know what the path or the building is. Using preselected targets (example the lassonde building sign), we will use text recognition in order to scan the sign, then use that information to retrieve information about the building in question. For example, if we scan the Lassonde building sign, in AR, a list of courses taught in the building and maybe a map of the building's internal layout will be produced in AR. It would also give the user the option to save this information and use it as a guide inside the building so they don't get lost.



Resource:

- each student is responsible for locating 10 resources
 - they can be links
 - they can be books
 - they can be code
 - they can be existing works
 - they can be people, places, things that inspire you
 - things you hate, things you love etc.
- each student will be responsible for 5 x technical resources and 5 x artistic/design/aesthetic resources
- add the links to your local copy of the file

Zihan Cao:

artistic/design/aesthetic resources:

- 1.<https://www.youtube.com/watch?v=LdnbvT1yIIM>
- 2..https://industrial.viewar.com/?gclid=Cj0KCQiA0p2QBhDvARIsAACSOONMLrdQJB6Em2FTxEsQshidK6D-Wq2oX2DMHJ3rBdSUH8ai-kallb0aAtZVEALw_wcB
- 3.<https://www.youtube.com/watch?v=AidepRnwbNc>
- 4.<https://www.youtube.com/watch?v=jPqN78-sbWo>
- 5.<https://www.youtube.com/watch?v=gqOYPMjWkes>

technical resources:

- 1.<https://youtu.be/x8Me2lQUyjg>
- 2.<https://github.com/antonyraphel/ARCarMovement>
- 3.<https://github.com/nesseratious/AR-Navigation>
- 4.https://github.com/sofwerx/AR_Navigation
- 5.<https://github.com/chel-seyy/Android-App-AR-Map-Navigation>

Yuqing Guo:

Artistic/design/aesthetic resources:

1. <https://themindstudios.com/blog/5-best-augmented-reality-sdks-and-frameworks/>
2. <https://experiments.withgoogle.com/collection/ar>
- 3.<https://www.wired.com/story/john-hanke-niantic-augmented-reality-real-metaverse/>
- 4.https://www.bilibili.com/video/BV1DV411k7Bz?from=search&seid=2932976992384029195&spm_id_from=333.337.0.0
- 5.<https://vrscout.com/news/3d-scanner-app-ar-apple-quick-look/>

Technical resources:

1. <https://github.com/GeekLiB/AR-BXT-AR4Python>
- 2.<https://www.jb51.net/article/174621.htm>
- 3.<https://www.youtube.com/watch?v=NIXJJojqM8BQ>
- 4.<https://www.youtube.com/watch?v=Nc1dPd6glRU>
- 5.<https://github.com/cyrildiagne/ar-cutpaste>

Jingheng Xu:

Artistic/design/aesthetic resources:

- 1.<https://www.roadtovr.com>
- 2.<https://www.quanjing.com>
- 3.<https://www.iberdrola.com/innovation/virtual-reality>
- 4.<https://www.youtube.com/watch?v=0p8HZVCZSkc>

5. *Unity Virtual Reality Projects Explore the world of Virtual Reality by building immersive and fun VR projects using Unity 3D* by Jonathan Linowes

technical resources:

1. <https://www.vrfavs.com>
2. <https://threejs.org/>
3. <https://www.youtube.com/watch?v=QvUkcw63bAs>

Jason Lu:

artistic/design/aesthetic resources:

1. <https://overlyapp.com/blog/augmented-reality-art-opportunities-and-examples-for-artists-and-creatives/>
2. <https://medium.com/predict/augmented-reality-transforms-artworks-into-experiences-1b72440a7094>
3. https://www.bilibili.com/video/BV1nb4y1R7Zh/?spm_id_from=333.788.recommend_more_video.-1
4. <https://www.inap.com/blog/7-incredible-examples-of-augmented-reality-technology/>
5. <https://econsultancy.com/14-examples-augmented-reality-brand-marketing-experiences/>

technical resources:

1.  Augmented Reality using OpenCV Python | Masking and Augmentation ...
2.  FACE RECOGNITION + ATTENDANCE PROJECT | OpenCV Python | ...
3. <https://mphy0026.readthedocs.io/en/latest/summerschool/bard.html>
4. <https://www.varonis.com/blog/git-branching#:~:text=To%20merge%20branches%20locally%2C%20use.branch%20into%20the%20main%20branch.>
5. https://www.bilibili.com/video/BV1H64y1y7X1/?spm_id_from=333.788.recommend_more_video_0

Yidan Zhang:

artistic/design/aesthetic resources:

1. <https://basa-studio.com/stories/7-AR-artists-who-are-raising-the-bar>
2. <https://www.youtube.com/watch?v=hDjCTg41jfU&t=1s>
3. <https://www.youtube.com/watch?v=3xq4DWJCJUks&t=27s>
4. <https://www.youtube.com/watch?v=YJg02ivYzSs&t=2s>
5. <https://www.youtube.com/watch?v=Drwkvk8j-tc&t=4s>

technical resources:

1. <https://www.codeproject.com/Tags/Augmented-Reality>
2. https://github.com/mafda/augmented_reality_101

3. https://blog.csdn.net/weixin_44192622/article/details/89077324?spm=1001.2101.3001.6650.3&utm_medium=distribute.pc_relevant.none-task-blog-2%7Edefault%7ECTRLIST%7ERate-3.pc_relevant_default&depth_1-utm_source=distribute.pc_relevant.none-task-blog-2%7Edefault%7ECTRLIST%7ERate-3.pc_relevant_default&utm_relevant_index=6
4. <https://github.com/jayantjain100/Augmented-Reality>
5. <https://github.com/yassersouri/simple-augmented-reality>

1. WEBSITE: Groups are to build their basic github pages website. This requires your group repo to be public - for now, submit the repo under public settings. Once your website has been verified and accepted you may swap back to private to continue building if you choose.
 - o but remember to test under public settings using your pages site as you continue building your project
 - o you may follow the sample site structure shown in this repo
 - mine is set up where all content to be displayed and site structure files are found in `docs/website/`
 - remember how we set up for Lab Project 1 (browser extensions)... `index.html`, `style.css` etc.
 - site has been updated to deploy from the branch called `gh-pages`
 - the directory structure will change as we build more content over the next 5 weeks
2. DOCUMENTATION: An example of documentation of the following:
 - o video capture of an `over-the-shoulder` view of your group's github pages running/showing a live AR scene
 - o screen capture of the AR live scene
3. ASSETS: You do not need to submit any final/polished/production-ready content but you must include:
 - o an example of at least one asset/3D model created by the group

3D model: Zihan Cao

- o a custom QR code that directly loads to your AR scene on github pages
- QR code & custom pattern & AR-html code: Adele
- o a custom pattern or barcode marker for the AR scene
- o QR code for the website

- AR-html
- the asset is to be displayed via the groups pages site, and can be activated when someone scans the QR code via mobile

Html

Set up github using tutorial on eclass: Jason

4. GROUP: Document at least one more group meeting between now and March 14th - have a more focused discussion on what your group is planning for the final project
 - include a discussion summary, images, sample code or artwork etc.
 - point-form is OK as are other methods of documentation

GOOD ENOUGH FOR NOW - MORE WILL BE UPDATED over the weekend - so everyone should try out the simple AR scene

Meeting1 Friday 4th:

planning to use gps coordinates on yorku signs

video capture (for now)

website which will have a button that will allow you to use the AR feature

pop up information building

planning to have models of building(s)

using an AR line/thread that will lead you from building to building, like an AR gps

Division of Job:

3D model: Zihan Cao

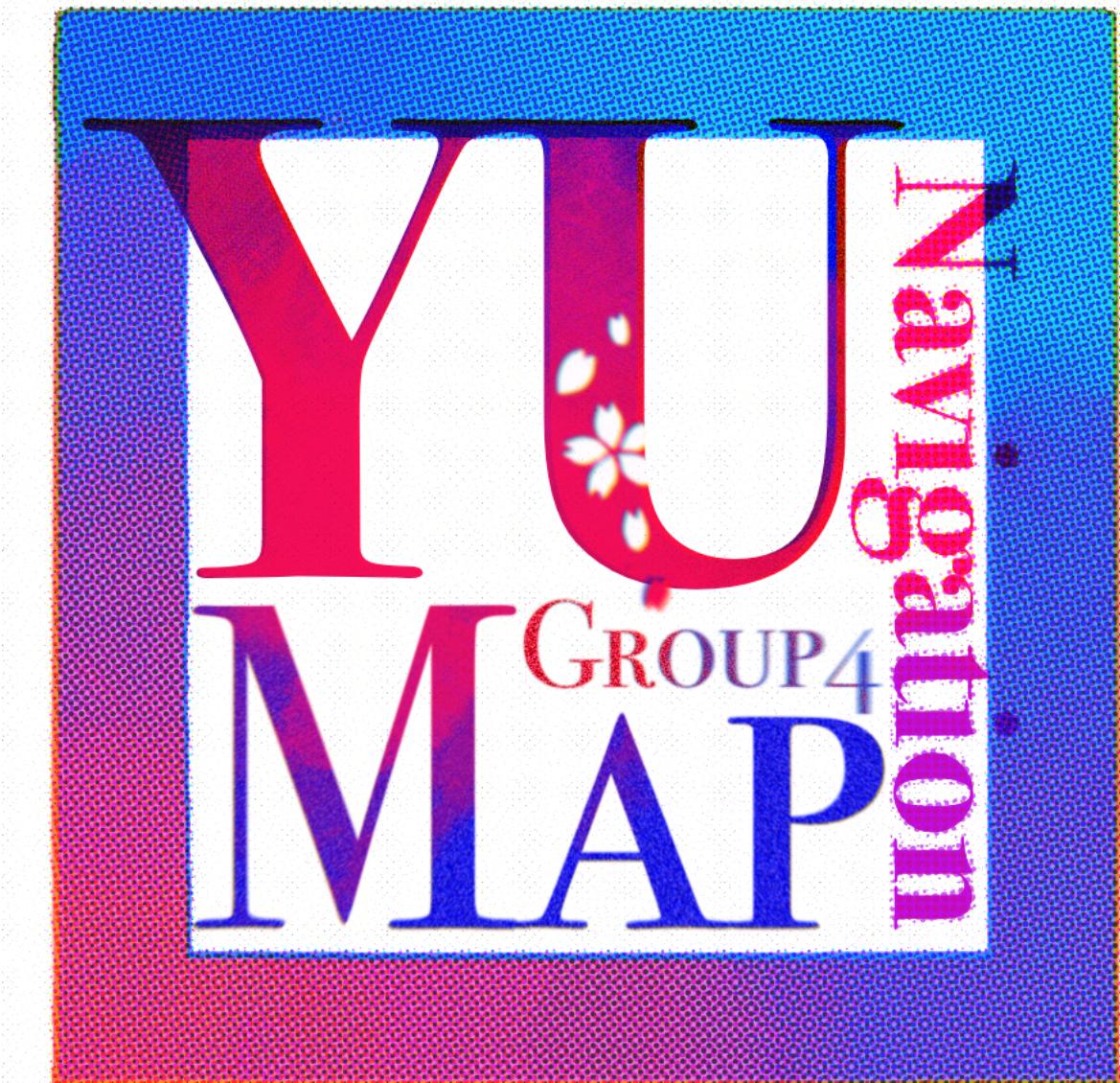
Set up github webpage using tutorial on eclass: Jingheng Xu

QR code and pattern/popup/Ar-html: Yidan Zhang

html: Yuqing

css: Jason

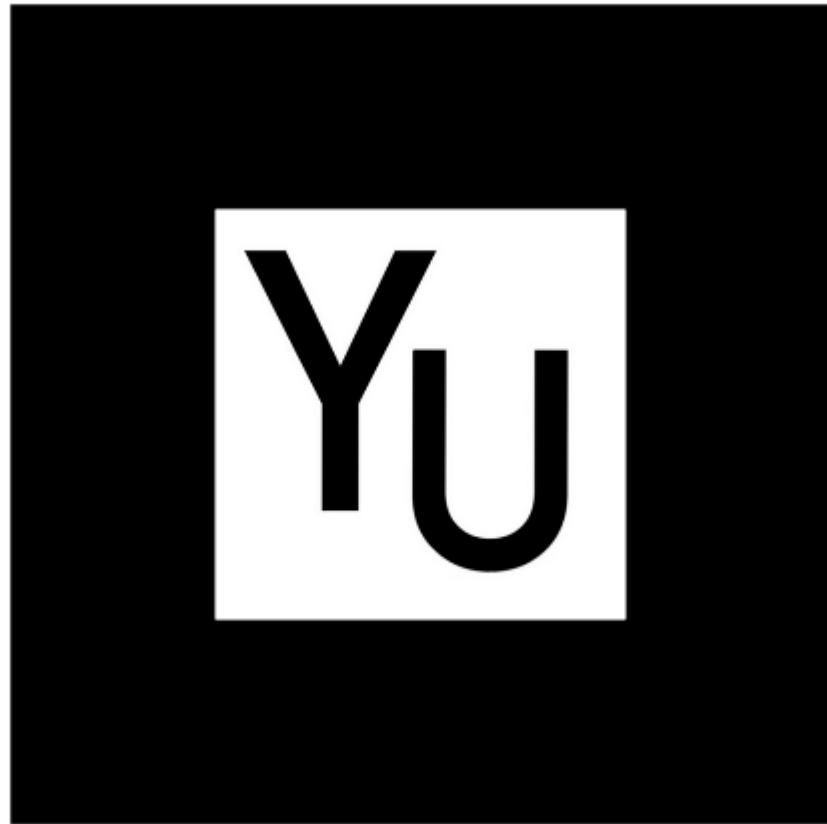
our group LOGO:



QR code



Custom pattern



Meeting on Friday the 11th:

Yuqing: AR (may not have enough time)

Jason: Replace pictures with lassonde building and swap out with example page on
github main branch

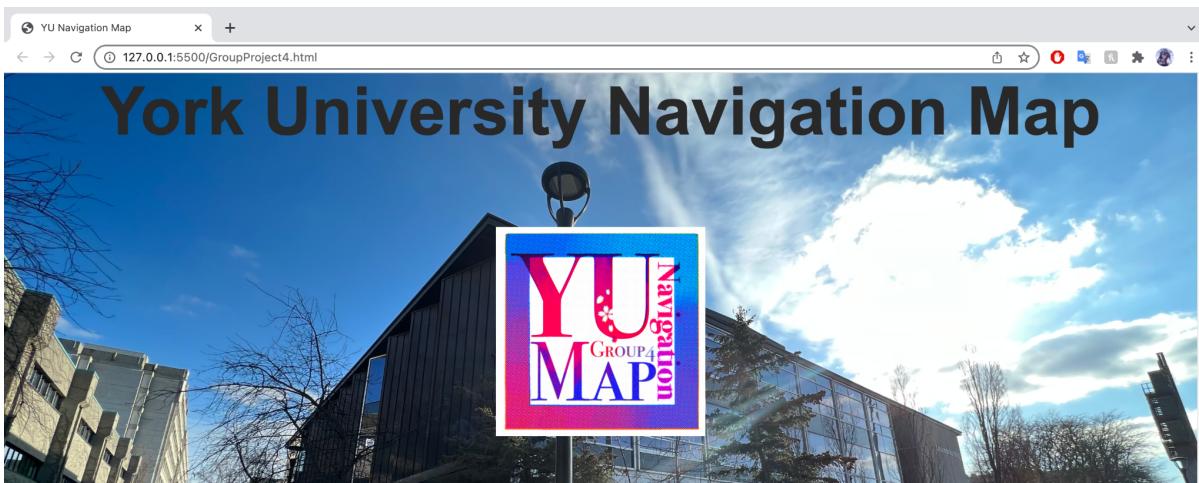
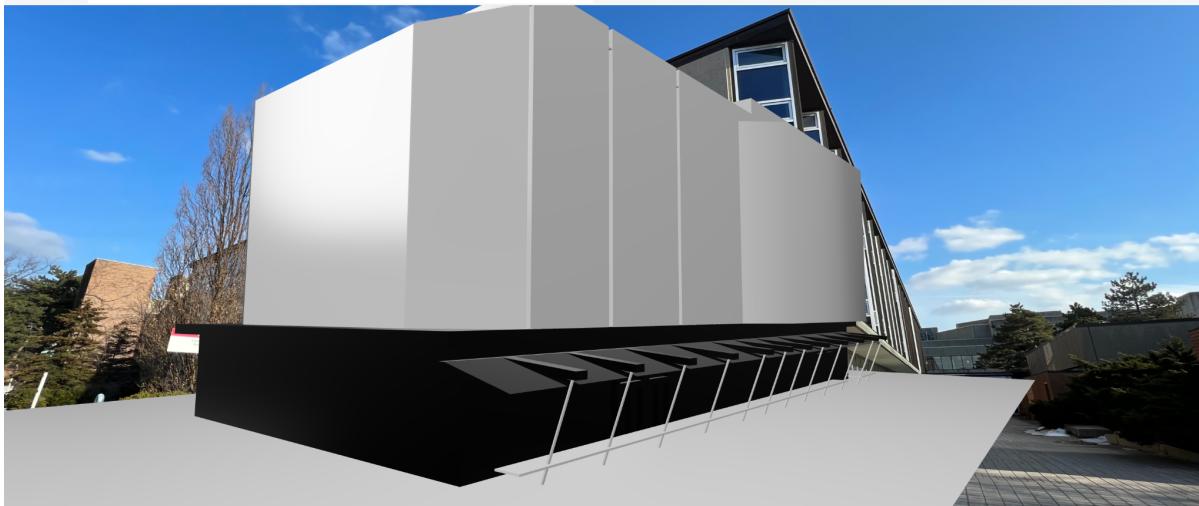
Everyone: pick up where Yuqing left off on Sunday

Meeting on Sunday the 13th:

- Finalize PDF
- Get AR to work on website



useful AR GPS system that will allow the user to follow a virtual "path" from one location the another. To use our project, just click the button at the bottom of the page. Also, if you find this application useful, share it with others using our custom QR code to the left!



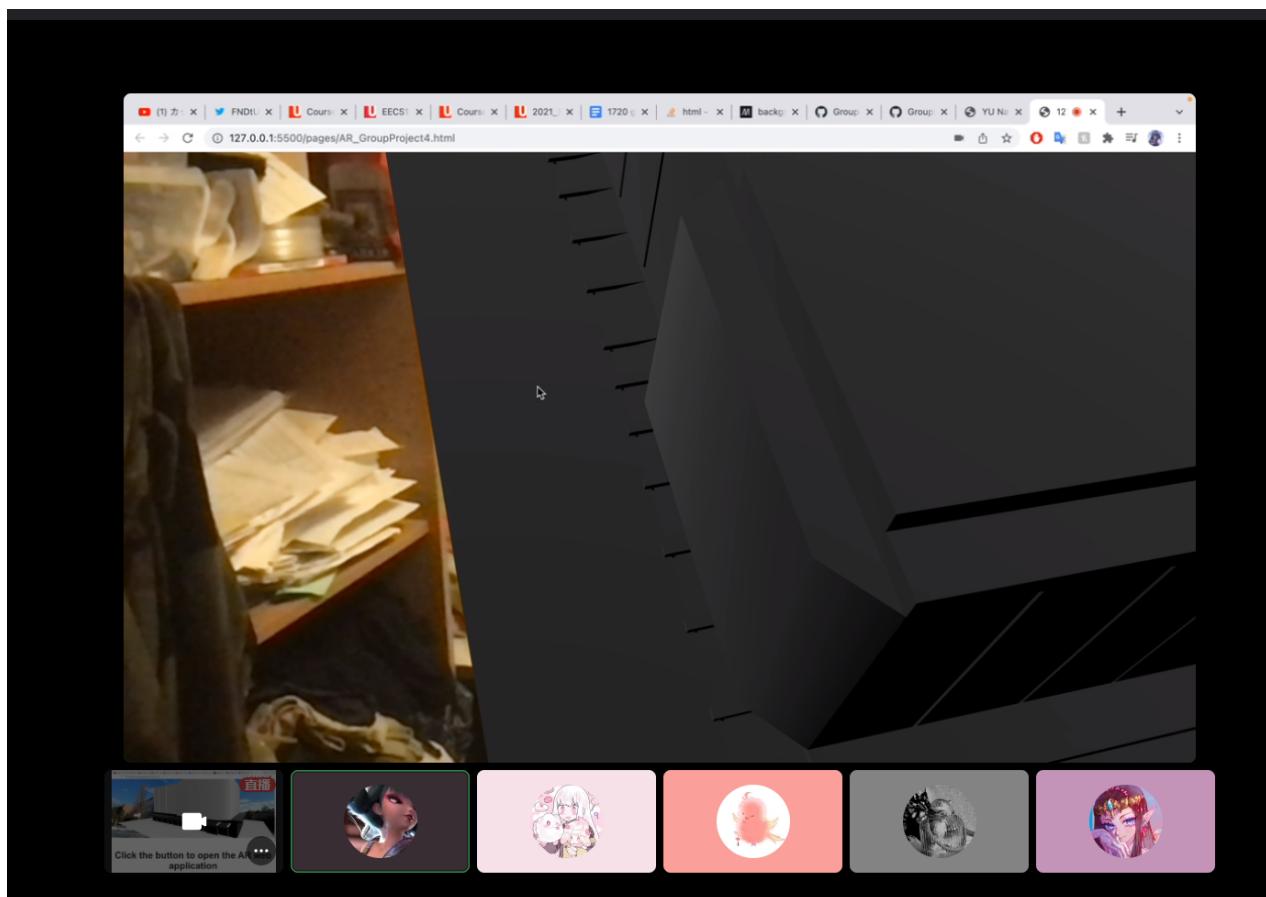
Brief description of our project

The goal of our project is to create an easy to use tool for new students and people unfamiliar with the

Using model-viewer to have 3d models show up in html

Sample Code of AR

```
groupProject4.html    ▶ AR_GroupProject4.html ×
...
AR_Site > AR_GroupProject4.html > ...
...
layout: default
title: AR Site
permalink: marker-based/ar-custom-pattern.html
...
<!DOCTYPE html>
<html>
  <head>
    <meta name="viewport" content="width=device-width, user-scalable=no, minimum-scale=1.0, maximum-scale=1.0">
    <script src="https://aframe.io/releases/1.0.4/aframe.min.js"></script>
    <script src="https://raw.githubusercontent.com/AR-js-org/AR.js/master/aframe/build/aframe-ar.js"></script>
  </head>
  <body style='margin : 0px; overflow: hidden;'>
    <a-scene arjs="sourceType: webcam; debugUIEnabled: false;" embedded renderer="logarithmicDepthBuffer: true;" vr-mode-ui="enabled: false" id="scene">
      <a-assets>
        <a-asset-item id="LassondeBuilding" src="https://raw.githubusercontent.com/robots-make-art-too/Group4_YU-Navigation-Map/dev_Yidan_Zhang/patterns/LassondeBuilding.gltf"></a-asset-item>
        <a-marker type="pattern" url="https://raw.githubusercontent.com/robots-make-art-too/Group4_YU-Navigation-Map/dev_Yidan_Zhang/patterns/LassondeBuilding.gltf">
          <a-entity id="entity-lassonde" positon="0.5 0.5 0" rotation="0 0 0" scale="0.005 0.005 0.005" gltf-model="#LassondeBuilding">
        </a-marker>
      </a-assets>
      <a-entity camera></a-entity>
    </a-scene>
  </body>
</html>
```



Phase3:

Zihan and Yuqing: A-frame set up and making models

Jason: Javascript (make so interaction with the model or maybe buttons that give more specific information about the building pull schedule for lecture hall)

Adele: GPS location and building information

Jingheng: haven't been able to get in touch

Buildings (3d models) included in our AR:

Lassonde Building

Ross Building/Vari Hall

Timeline (flexible):

GPS location and A-frame try to be done by the April 4th
April 4th or 5th check up meeting

Javascript and building information get done by due date
two days before due date, final meeting to update document and upload

We made the buttons separately for the two models on the HTML file in phase 3.

Specific customization of AR content submitted

- is this in the interaction code?
 - Yes, there is a button on the screen when you start the AR, you can check each buildings' information by clicking the button
- is this in the concept?
 - Yes, the AR we made can give the users the information of buildings on campus (Lassonde building, Vari Hall, and Ross building)
- is this in the models?
 - Yes, we included two 3d models in this project, one is for the Lassonde building and the other is Vari Hall and Ross building (they are connected)
- is this in the experience?

Yes, the models are same with the real building and the information can help people to understand
- what is the expected experience: what should we see and where (if you have treasure/riddle content you may leave this out until after we test)

You can see a model of the building when the camera open and you can click the button on the bottom of the ar version, the brief description would present when you click it.

Screenshots

