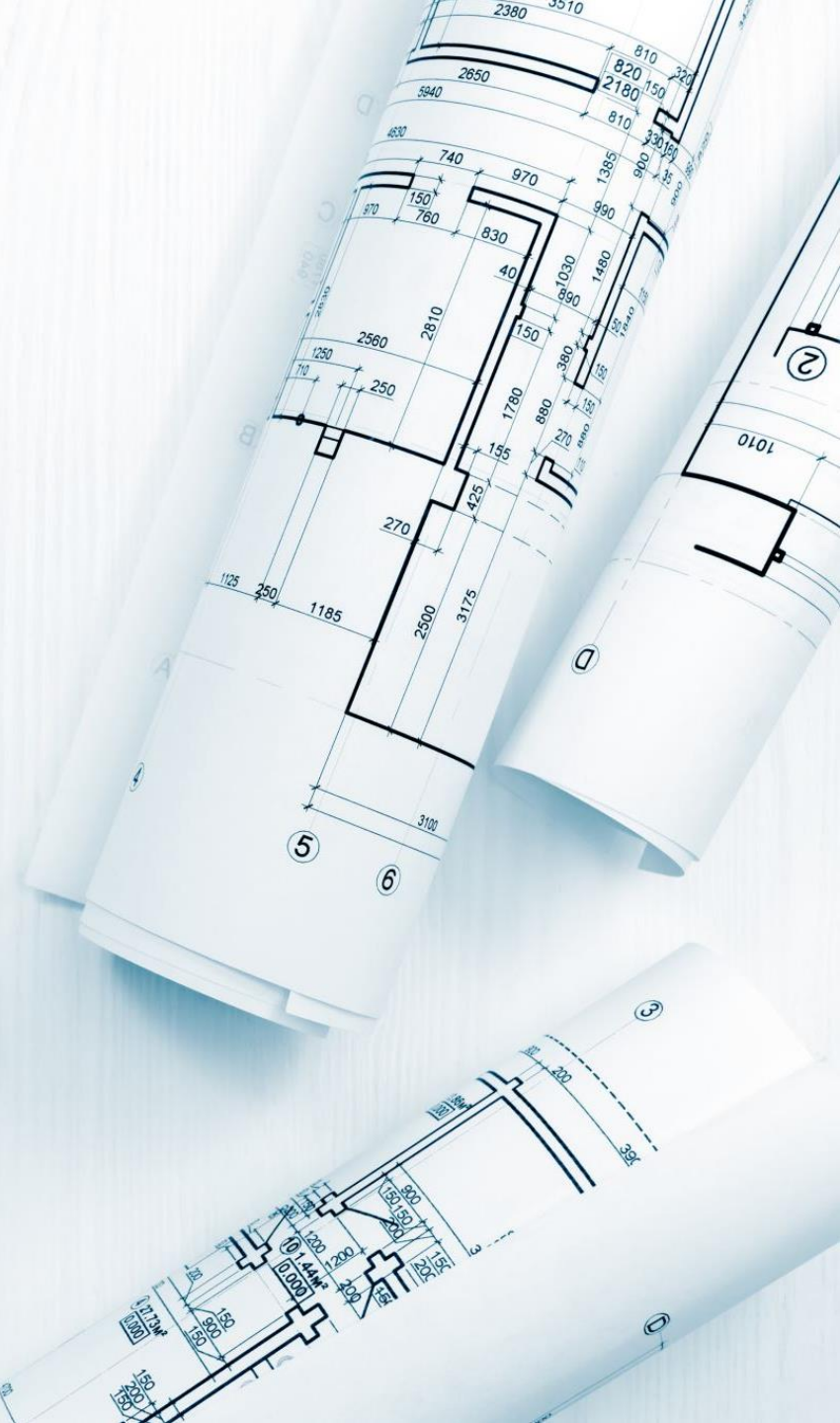


EPICS: Food Pantry

Spring 2026





Design Reviewer Introductions

Thank you for being here to support our team!



- **Gleaners Facility in Minecraft**
 - Boost donations and community involvement.
 - Increase awareness of local hunger issues.
- **Collaboration with Capstone**
 - Create a tool for Capstone to generate road data.
 - Identify best routes for delivery trucks to take under different road conditions.

Creation and Development

Development Team
Fall 2025



Team Members



Audrey Alford
-Project Manager
-Freshman
-Mechanical
Engineering



Edbert Chenjp
-Design Lead
-Freshman
-Integrated
Business &
Engineering



William Freebern
-Project Liaison
-Freshman
-Biomedical
Engineering



Elijah Mauger
-Communication
officer
-Freshman
-Mechanical
Engineering

Team Members



Umber Gill
Financial
Freshman
Motorsports
Engineering



Seonghun Kim
Project Archivist
Freshman
Computer
Engineering



Dylan Rangel
Team
Member
Freshman
Mechanical
Engineering

Maya Kapoor
Freshman
Integrated
Business and
Engineering
(IBE)

Team Members



Liam Shroyer
Team Member
Freshman
IBE

Ethan McNabney
Team Member
Freshman
IBE

Isabel Fung
Freshman
Integrated
Business
and Engineering
(IBE)

Tuvshin Unenbat
Freshman
Integrated
Business and
Engineering
(IBE)

Team Members



Ray Lin

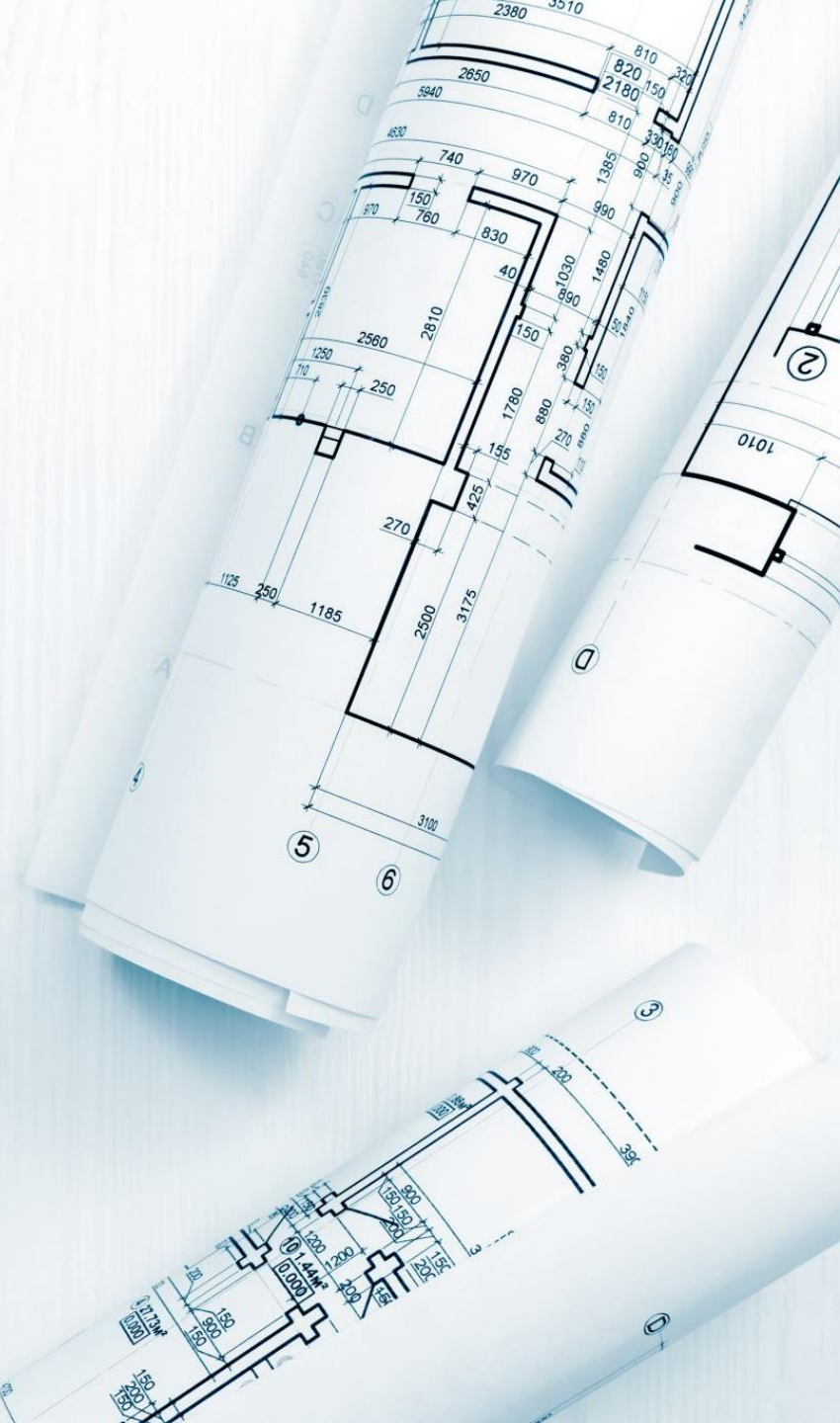
**Cloud Services and
Networking Specialist**

Freshman

Electrical Engineering

Gleaners in Minecraft

Spring 2026



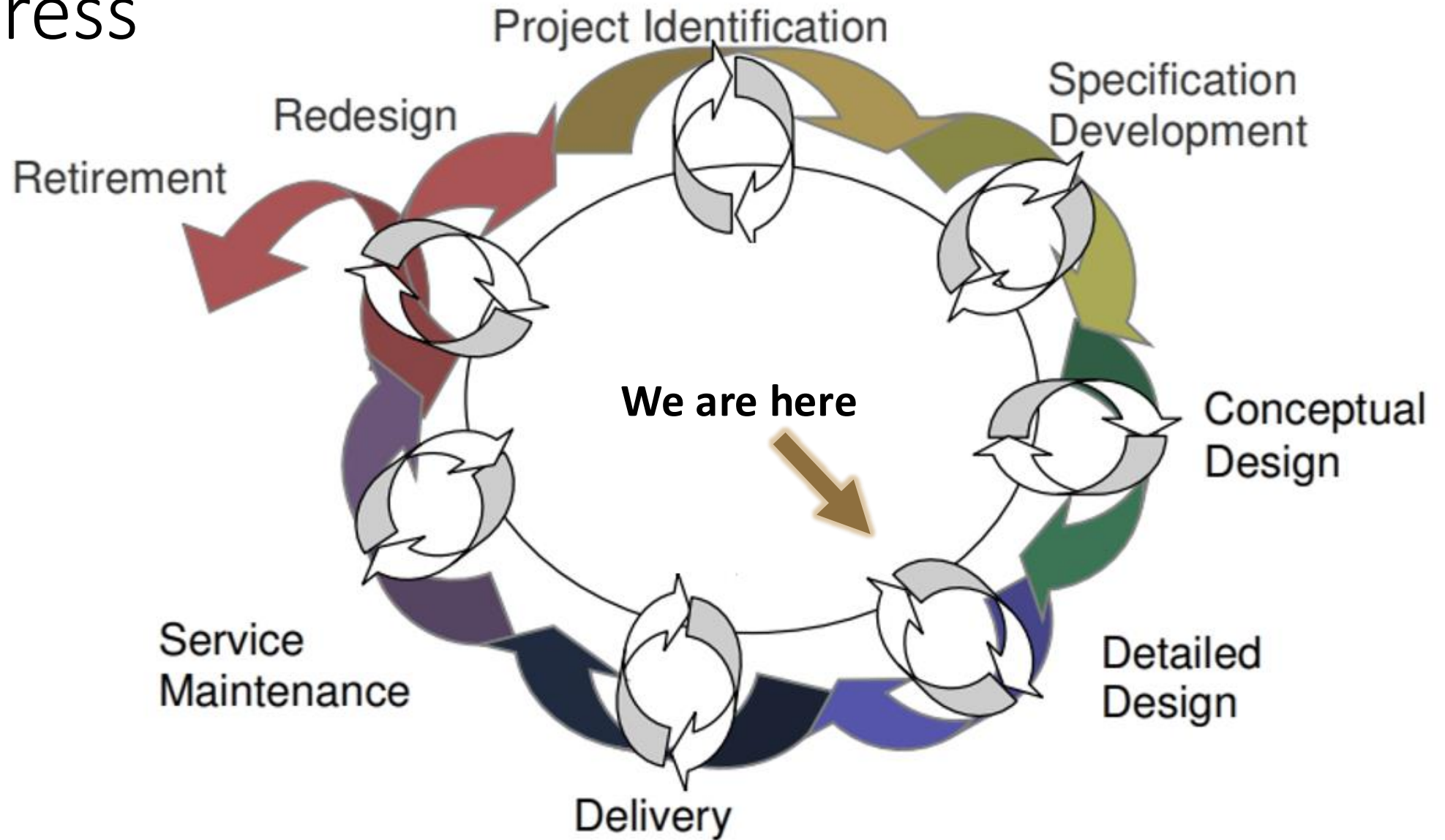


Madison Stacy - Digital Specialist of Marketing at Gleaners

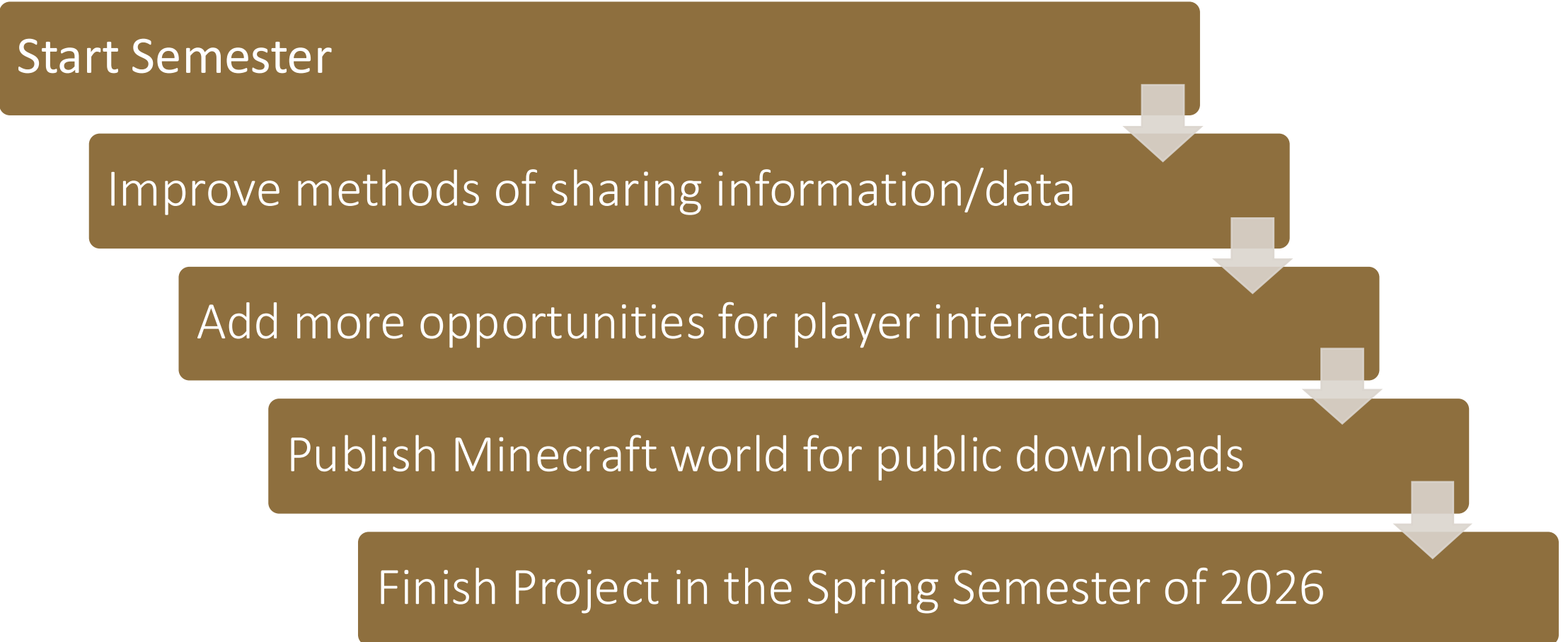
- A non-profit, charitable organization focused on hunger relief.
- "To be a leader in the fight against hunger."



Progress



Project Timeline





Project Identification





Gleaners Food Pantry

Objective Statement

- “Our mission is to raise awareness of Gleaner's and boost fundraising by engaging younger audiences through modern platforms.”

This Semester

- We are updating the digital world we made last semester to help younger audiences develop a knowledge base about Gleaners and their impact on communities.

User Needs

Gleaners Team

- Introduce a unique fundraising tool for younger generations
- Engage a broader range of volunteers

The Neighbors

- Full access to Gleaners' projects and services
- Simplify the process of using Gleaners' services

Indianapolis Community

- Fight the hunger crisis and food insecurities in Indianapolis' communities
- Increase recognition and awareness of the hunger crisis in Indianapolis' communities



Specification Development





Context of Use



Used for promotion of
Gleaner's, attempt to increase
volunteer recruitment



Used in videos shown at
fundraising events or promoted
for people to play



Requires computer that can
handle minecraft

Specifications

At least 1 interactive element in each volunteer area

No more than 4 lines in each floating text element

NPCs give no more than 4 lines of text every 5 seconds

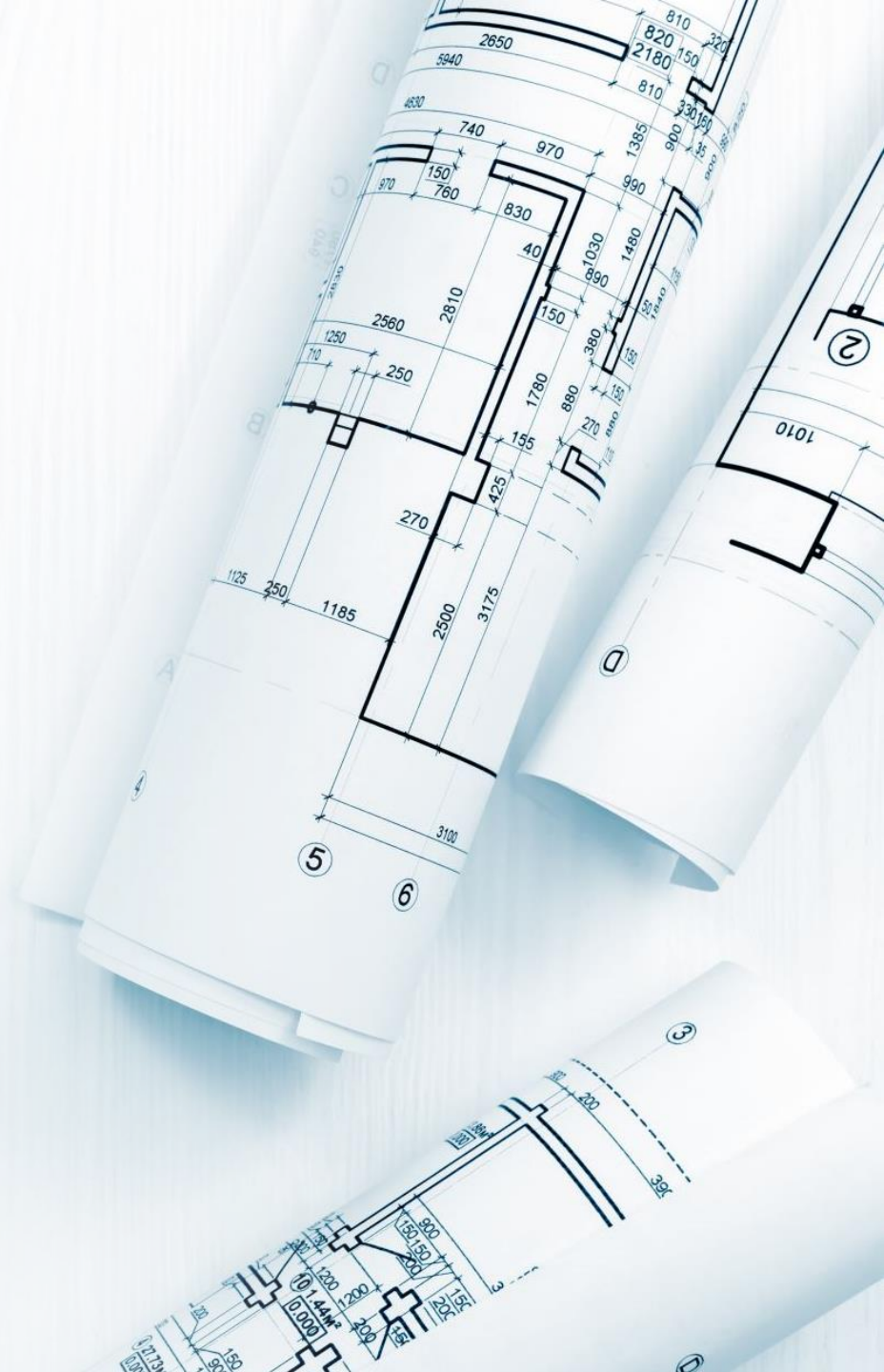
Etc.

Benchmarking

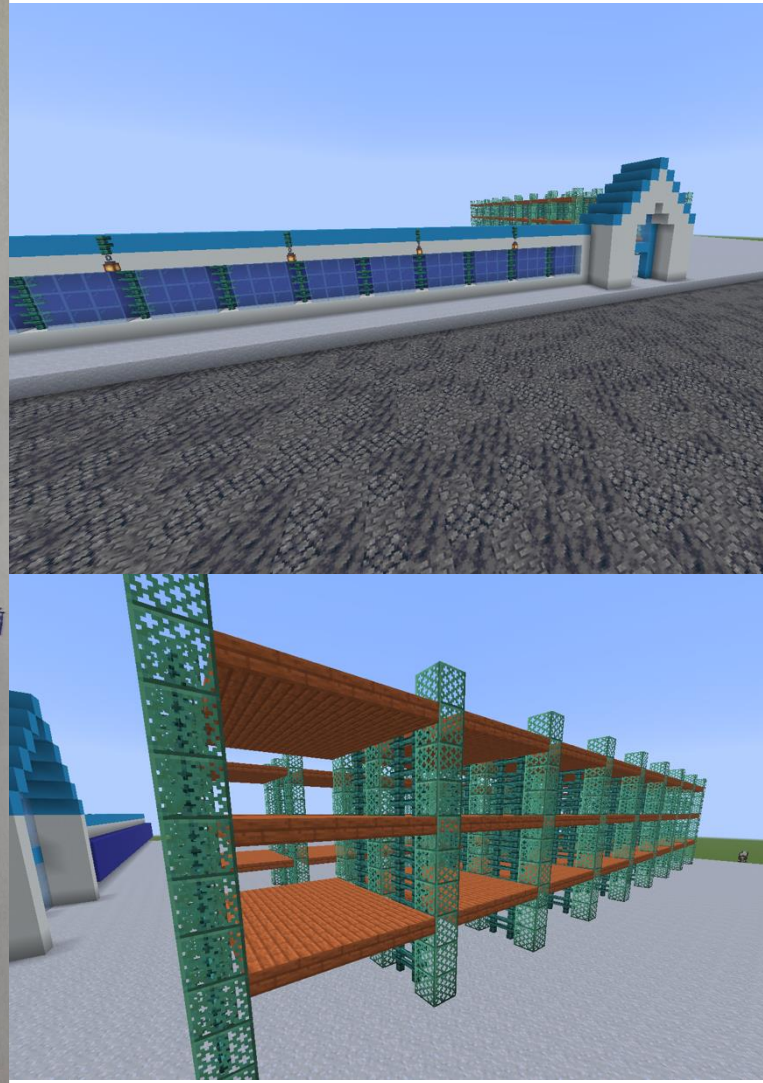
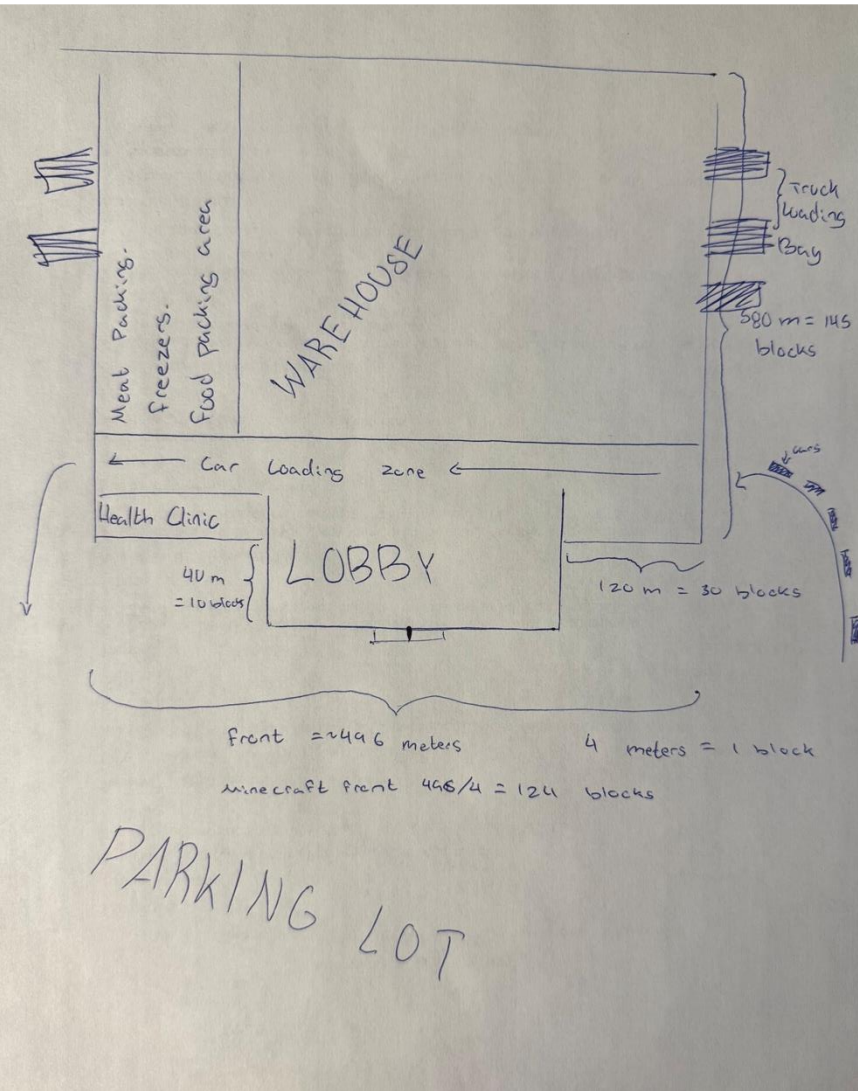


Text Element	Pros	Cons	Take-Aways
Signs/Lectern	• Easy to manipulate & set up • Can hold lots of text	• Not very eye catching • Hard to see depending on lighting	• Good for
Floating text	• Eye catching	• Can't display too much text at once (overwhelm the reader) • Is only viewable from certain angles	• Take away
NPCs (non-player characters)	• Simulates volunteer supervisor • Engaging	• Difficult to implement • Requires plug-ins	• Take away

Conceptual Design



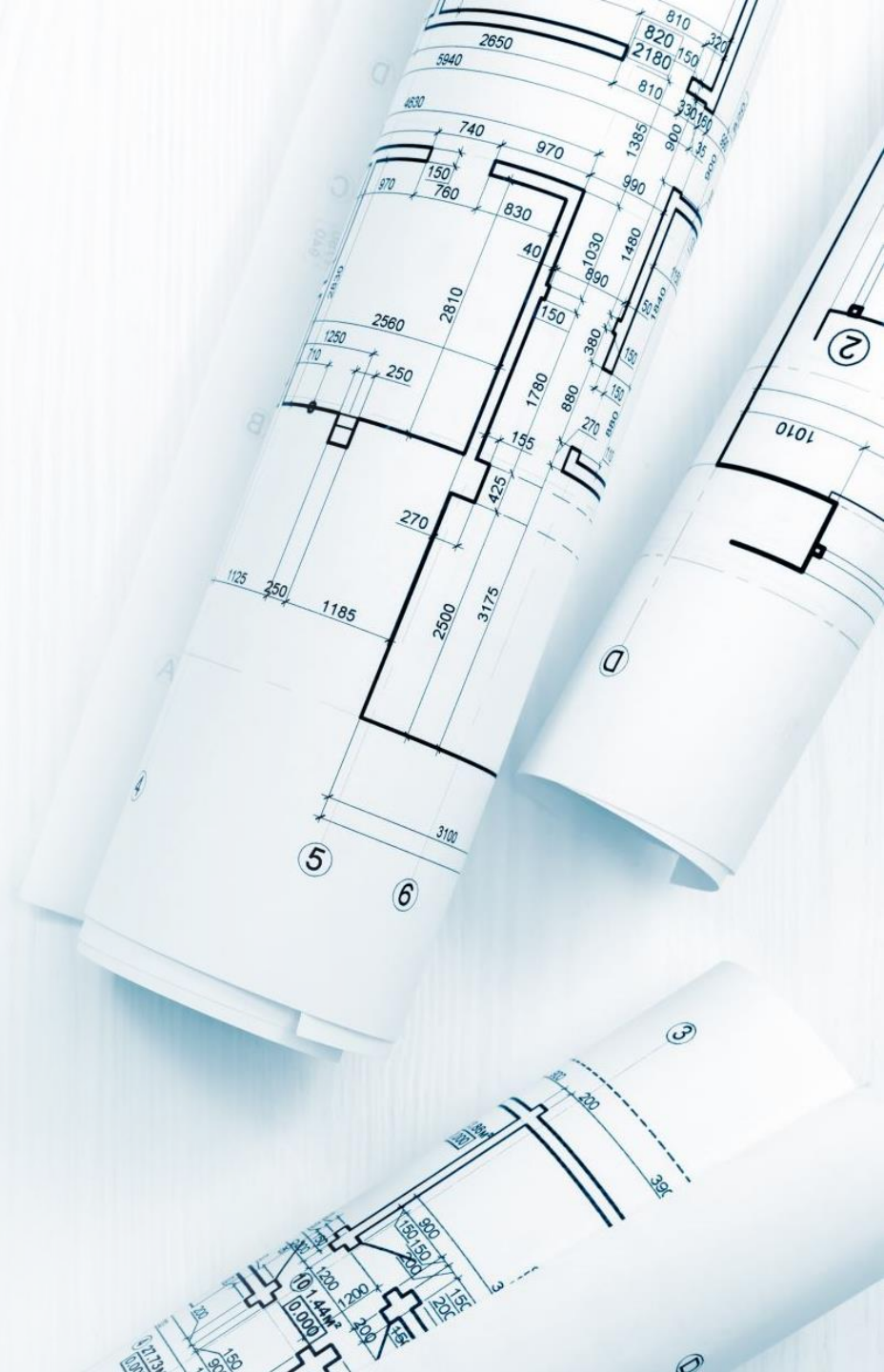
Concept Generation



- Solutions we considered
 - NPC interactions
 - Floating text
 - Minecraft signs
 - Redstone contraptions



Detailed Design



Chosen Solution

- We have chosen to create a Minecraft representation of Gleaner's that will be able to develop a knowledge base in the younger generations.



Bill Of Material (B.O.M)

Item	Vendor	Quantity	Cost
Minecraft Accounts	Microsoft	10	\$300.00
Transportation to Gleaners	Uber/Rental	5	\$50.00
Computer Mice	Amazon	6	\$30.00

Technical Details

Throughout our project, we aim to develop a more effective overall technical design. Our goal is to design a building that enhances the productivity and functionality of the interactive world we've created. This world will be structured to support and encourage fundraising efforts.

Risk Analysis

Misrepresents Gleaners

- Risk Priority Number: 18
- Continually compare to Gleaners

Malware

- Risk Priority Number: 12
- Data Protection through secure encryption and storage

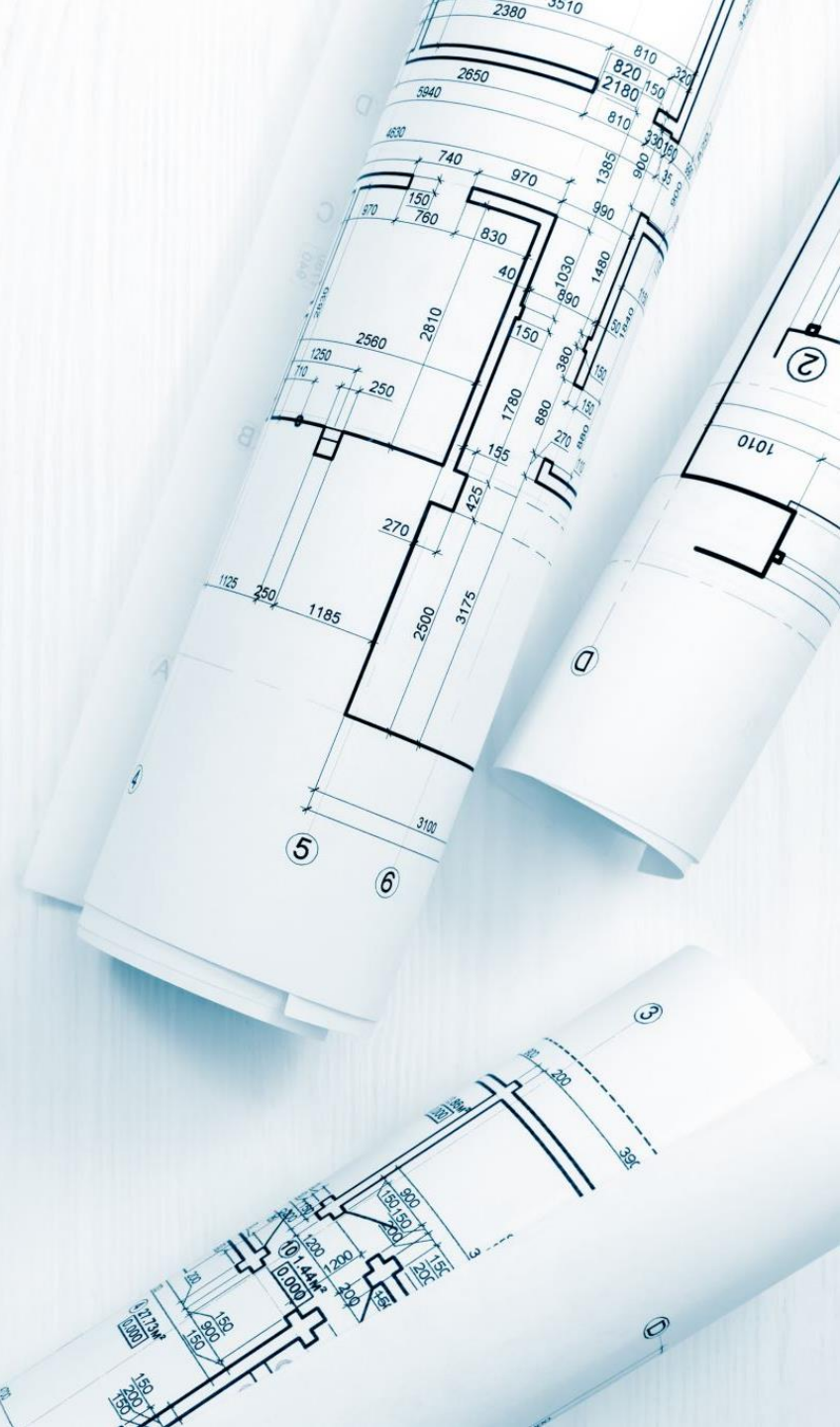


Future Plans

- Make interactive function or a minigame in the Minecraft World.

Collaboration with Capstone

Spring 2026

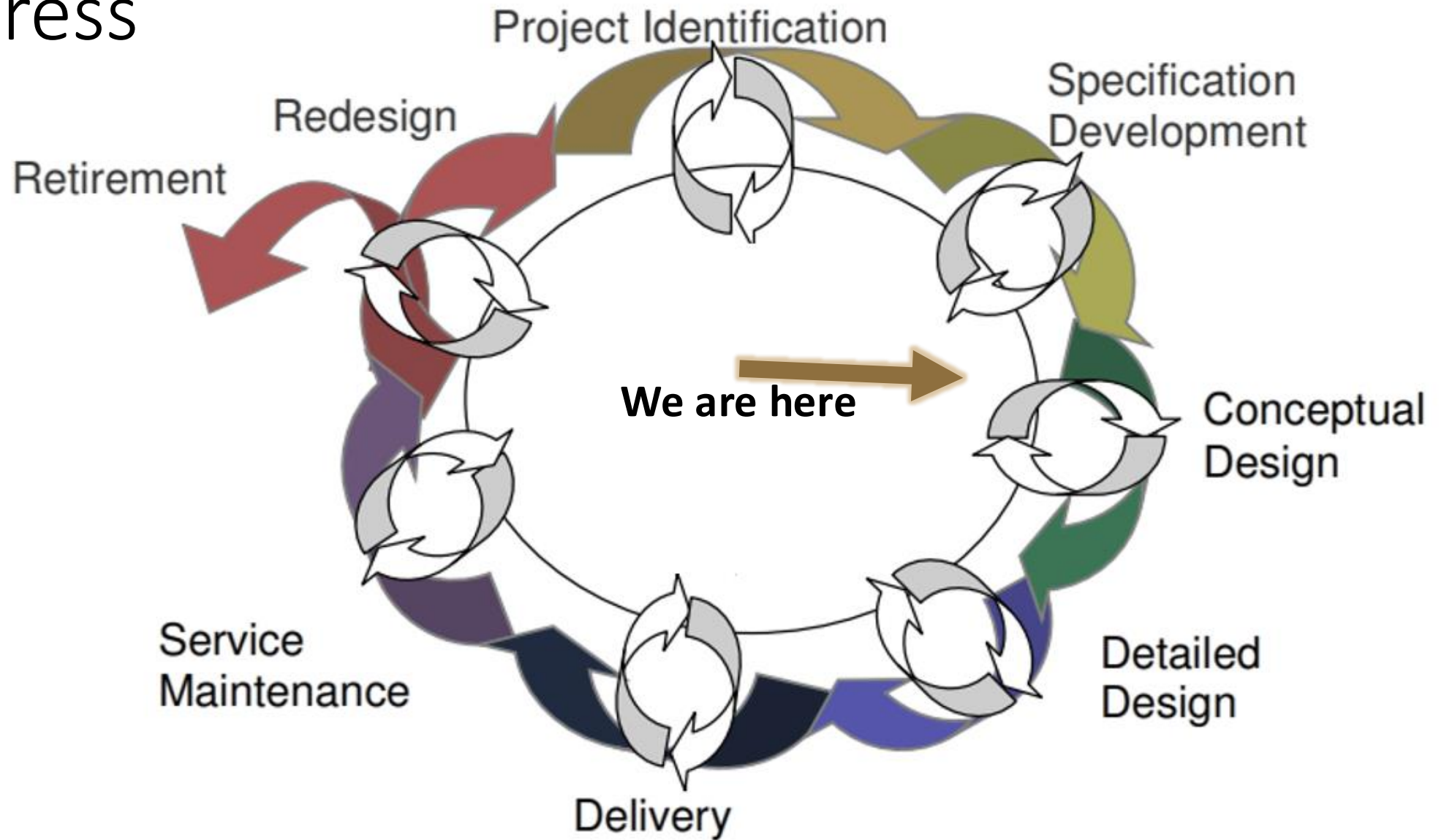




Sarah Norville - Team lead of
Capstone project.

Spring 2026

Progress



Project Timeline

Start Semester

Volunteer at Gleaner's to Understand Main Project Goals

Complete roadways in Minecraft

Add cars onto the roadways to allow efficiency calculation

Anticipated Completion Semester

Collaboration with Capstone

Objective Statement

Assist the Purdue Capstone team in developing a program that can identify the best route for Gleaners delivery truck to take depending on road conditions

This Semester

Create a system in Minecraft that represents the roads between Gleaners and the food pantries they service at different capacities



User Needs

Capstone team

- Input data for their route calculation
- System needs to be easy to set up, run, and collect data

Gleaners

- Capstone's route calculator needs to be accurate
- Route calculator must be able to adjust for new food pantry locations

AV Developers

- Route calculator needs to be interpretable by AV

Specification Development





Context of Use



Used by Capstone team to develop program that identifies best route



Simulate Indianapolis roads at varying capacities



Will only be used to generate data for the Capstone team's program

Specifications

Can simulate roads with at least 3 different occupancies

Simulates at least 3 possible routes between destinations

Simulation can be manipulated by client > 1 hr setup

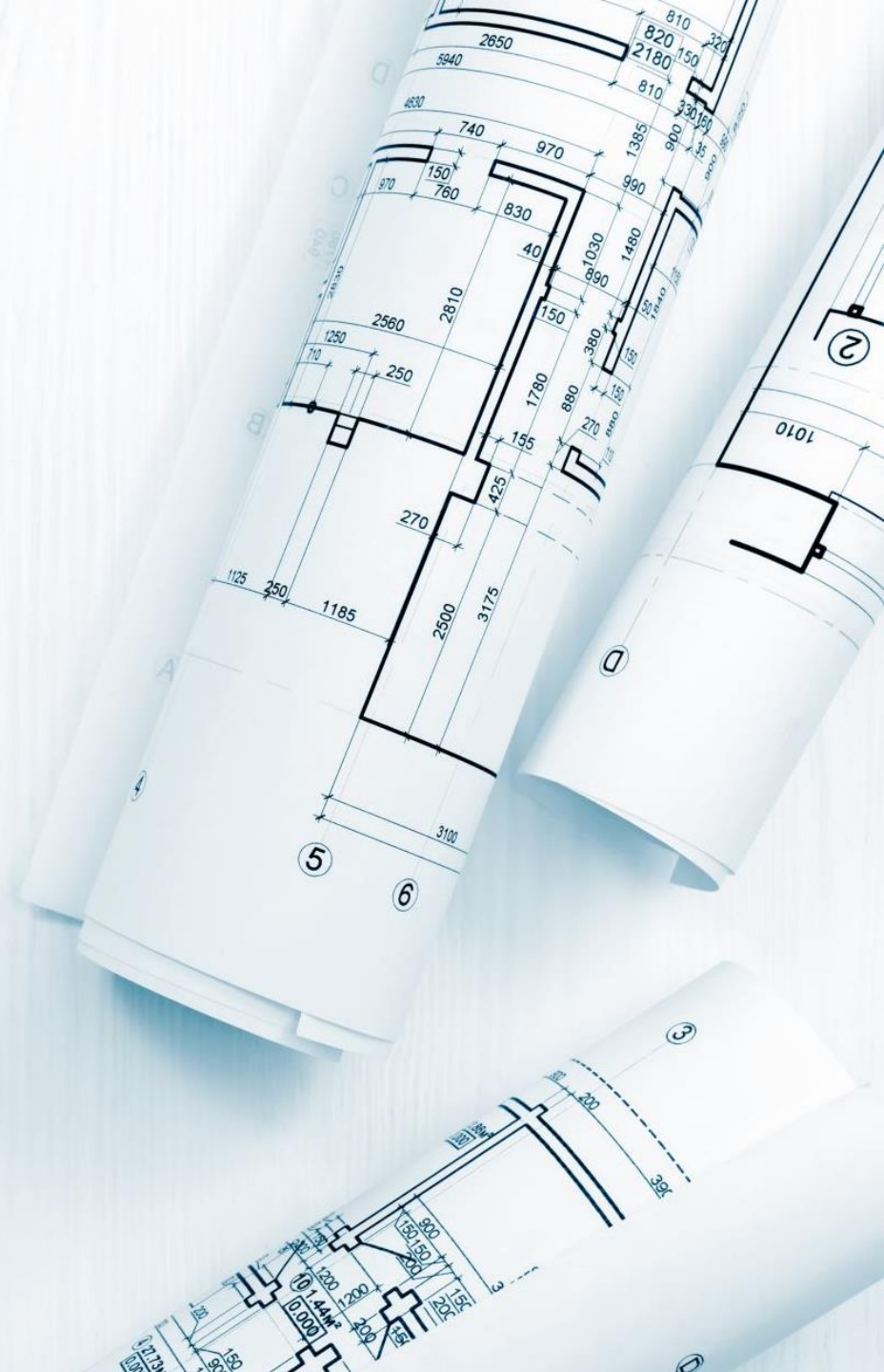
Etc.

Benchmarking



Name	Pros	Cons	Take-Aways
Minecraft	• Already familiar • Convert map to world	• Mods required to simulate cars	• Lesson 1 • Lesson 2
Cities: Skylines	• Already simulates city functions (traffic)	• Unfamiliar	• Lesson 1 • Lesson 2

Conceptual Design



Concept Generation

- Resample an orthoimage so 1 meter is 1 pixel, then build off that image.
- Use software that builds roads automatically onto Minecraft.

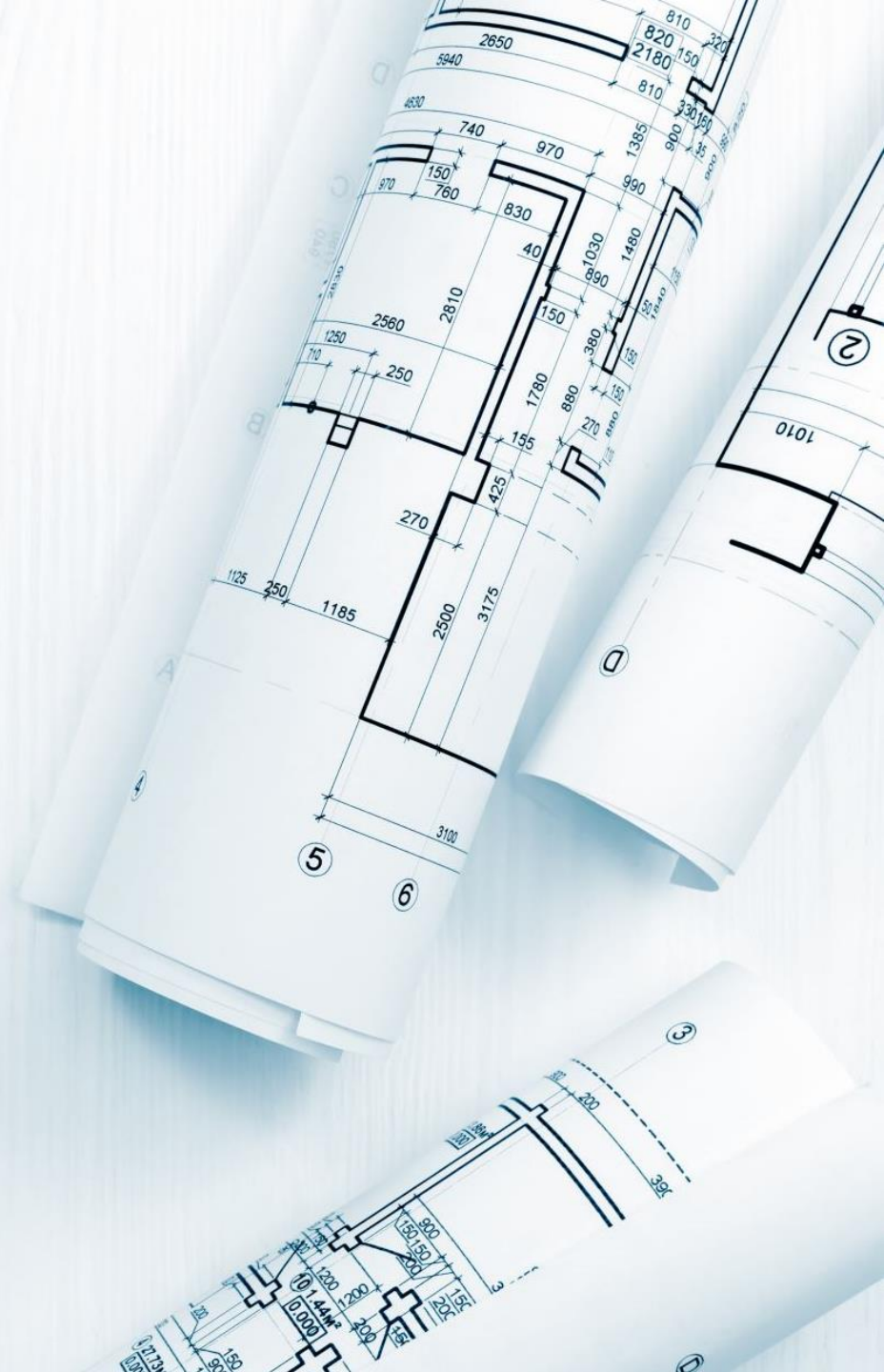
QGIS



PARMIS

GENERATE CITIES FROM REAL LIFE IN MINECRAFT

Detailed Design



Chosen Solution

We used Arnis to build and map out Indianapolis. This solution is the quickest, but sometimes results in buildings on the ground.



Future Plans

- Create roadways from food bank to food pantries.
- Add cars to roadway for an efficiency simulation.

Thank You

Any Questions?

