My Experience

Creating Keynotes

My Experience

Creating Keynotes

GIS 2022

T4G 2022

FLL 2022

GIS 2022

SST
GIRLS-IN-STEM

Girls-In-Stem 2022

GIS 2022, was an event held by the Robotics@APEX CCA of SST.

As a member of the Robotics CCA, I had the special opportunity to work on the keynote presentation for the event, where numerous Girls explored the world of Robotics.

Girls-In-Stem 2022

As the Designer of the slides,
my role was to create a
visually captivating and impactful
presentation.

Learning point:
Developed skills in
creating engaging presentations
for large events.

GIS 2022

INTRODUCTION

GIS 2022

SCHEDULE

Girls-In-Stem 2022

I worked closely with the passionate event organisers, immersing myself in their vision and objectives

Learning point:
Taught me the power of effective communication and the art of weaving together diverse perspectives.

GIS 2022

SCHEDULE

915	-	930	Ice-Breakers
930	-	1030	Basics - Building
1030	-	1100	Basics - Programming
1100	-	1105	Challenge Briefing
1105	-	1130	Ideation -
1130	-	1300	Lunch + School Tour
1300	-	1430	Construction
1430	-	1600	Semi Finals
1600	-	1620	Finals
1620	-	1640	Prize Presentation
1640	-	1700	Debrief

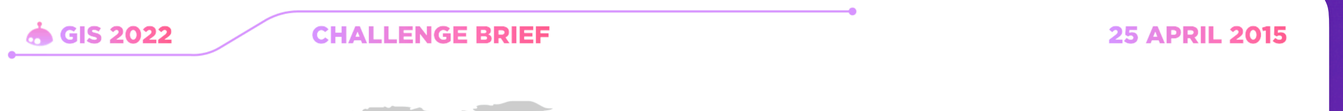
GIS 2022

Girls-In-Stem 2022

The challenge at hand was to effectively introduce Robotics to Girls of Diverse backgrounds.

I learnt how to make thoughtful choices in typography, color schemes, and seamless transitions which ensured an immersive experience for the attendees.

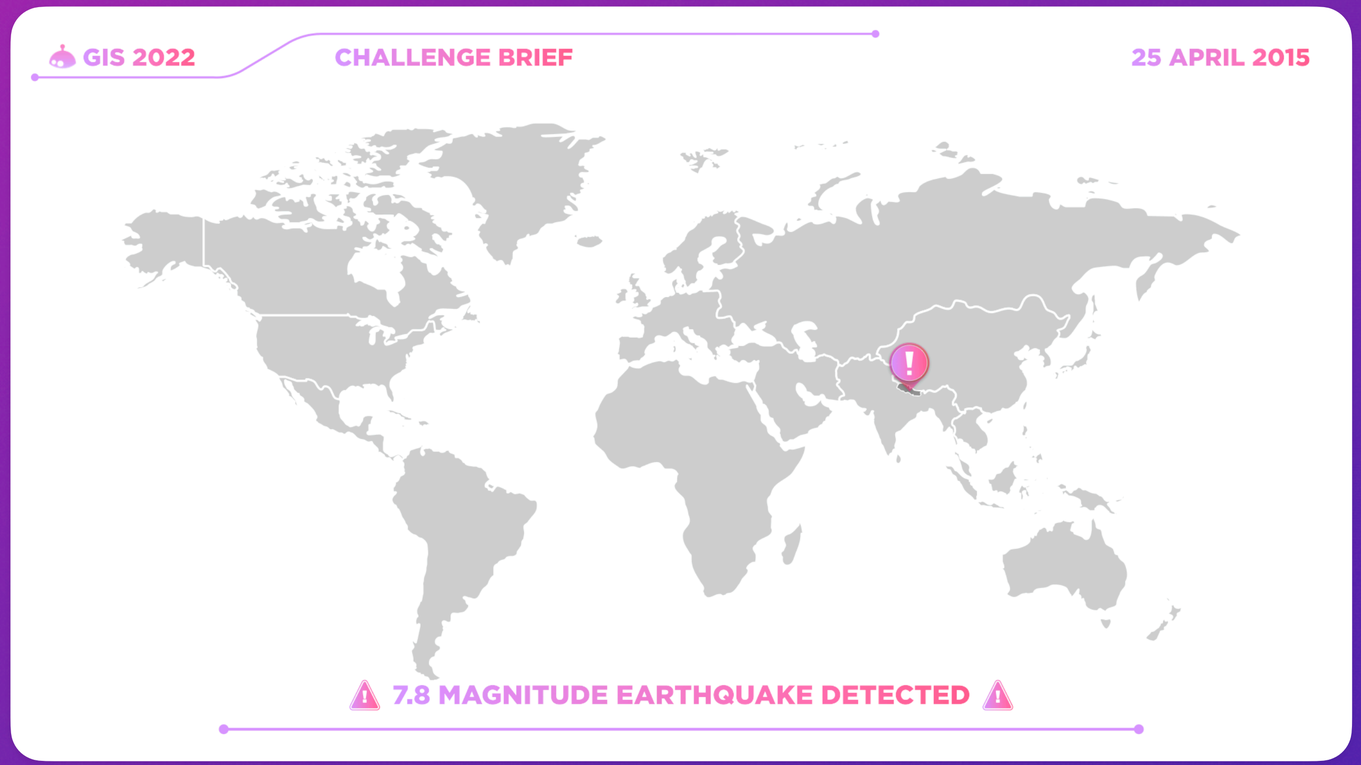
Learning point: Utilized storytelling techniques to inspire girls in STEM.

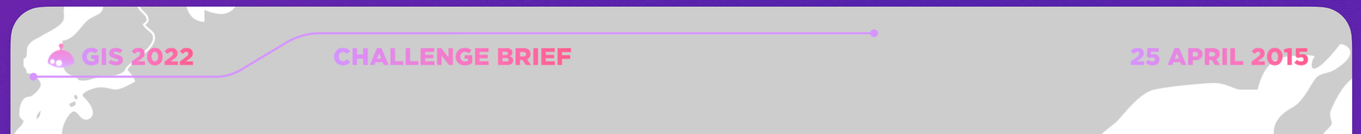


Girls-In-Stem 2022

I crafted slides highlighted the
Robot Challange that the
Girls were going to take part in.

Through storytelling I was able to
showcase a Real-World Example as the
background of the challange,
to motivate them to push their limits.

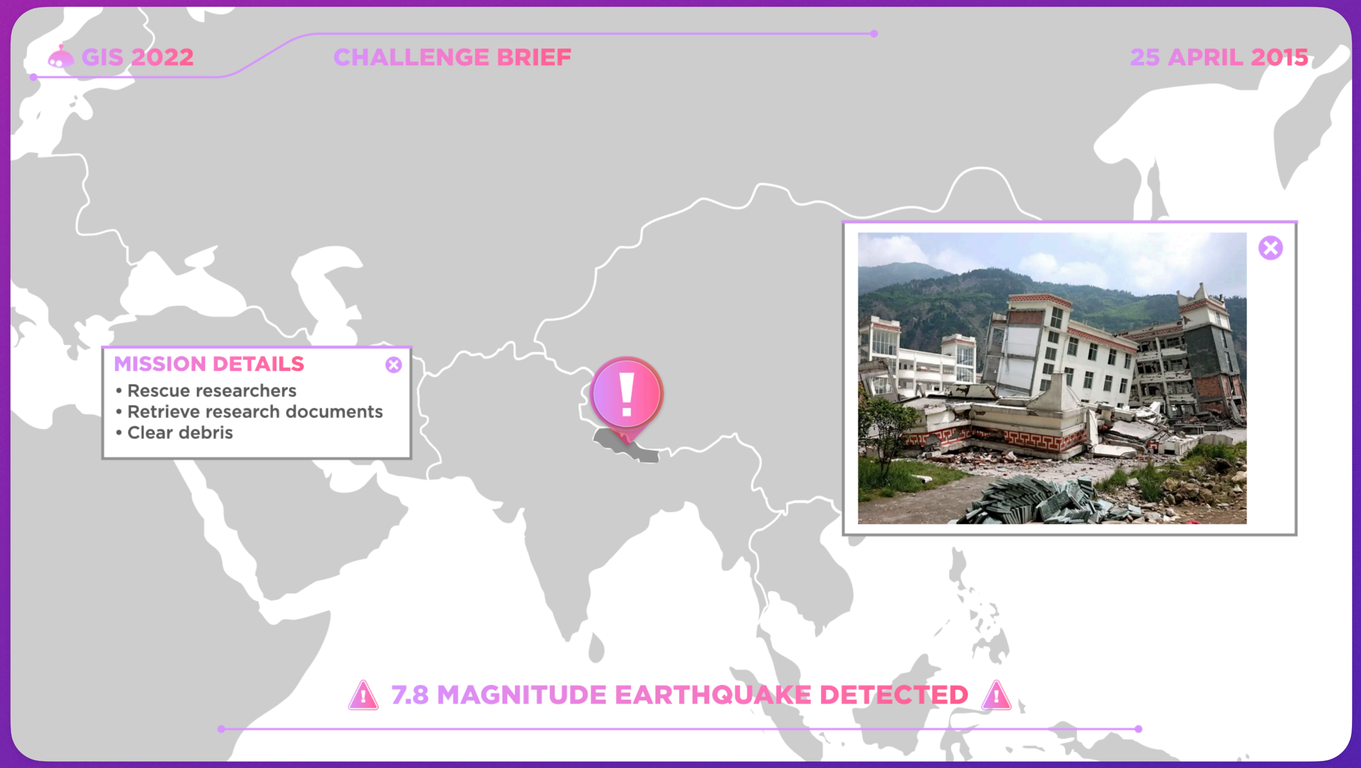




Girls-In-Stem 2022

Being part of the event and designing the presentation was an incredibly rewarding experience.

It allowed me to apply my design expertise and collaborate with a diverse team, contributing to the success of the robot challenge.



Girls-In-Stem 2022

Learning Points

- Engaging presentations for girls in robotics.
- Improved collaboration and communication within events.
- Design principles for impactful and visually appealing slides.
- Storytelling techniques to inspire passion and engagement.
- Transformative impact of design in fostering excitement.

Girls-In-Stem 2022

Thought Process

Through this presentation I focused on making the overall repetitive slides simpler and readable, so that the important slides will have extra animations and colours to grab attention, such as the challange introductory slides.

Girls-In-Stem 2022

Special Mention

This Animation that was Curated to introduce the mission during the event.

Girls-In-Stem 2022

Download Link

Available for you to find out more about the shared keynote.

With a PDF copy also available to download
if you are unable to view the keynote on your device.

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T4G 2022

T4G

T4G

Tech4Good 2022

Tech4Good 2022 was an event held by Engineering Good in Singapore, which I took part in.

T4G is an annual innovation festival that celebrates the use of technology in helping people with disabilities and the elderly live a life of opportunities.

"For abled people,
Technology makes things *easier*.

For disabled people,
Technology makes things *possible.*"

Engineering Good, 2022

T4G

Problem Statement

How might we enable
people with Muscular Dystrophy
to exercise their own creativity
by making it possible for them
to take photographs
and/or videos independently?

T4G

1: Bootcamp

The Tech for Good Bootcamp was an inspiring experience.

I collaborated with my mentor, Hazhari, and community partner who had Muscular Dystropy, Timothy, to tackle the problem.

My Main Goal was to empower individuals with Muscular Dystrophy, like Timothy, to capture their dreams through photography and videography.

2: Plan

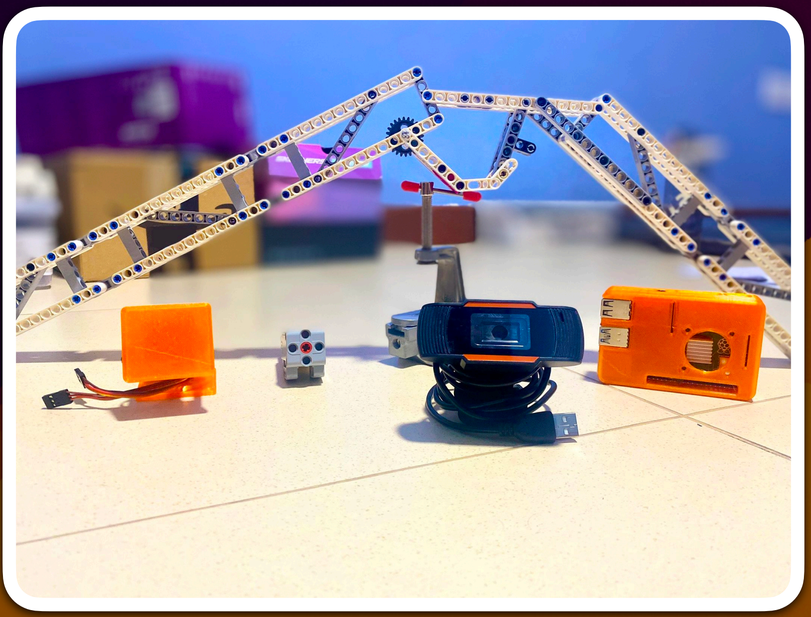
Muscular Dystrophy affects 300,000 people worldwide, each with unique needs.

Current solutions for wheelchair-bound individuals lack an all-inclusive approach, limiting their independence and creative expression.

First, my team and I produced an idea, that was to create a robotic arm and a touchscreen, with a UI.

However, we also had to draw back our ambitions based on the time and budget we had for the project, before the T4G Festival, where we had to showcase our innovation.

3: Protoype

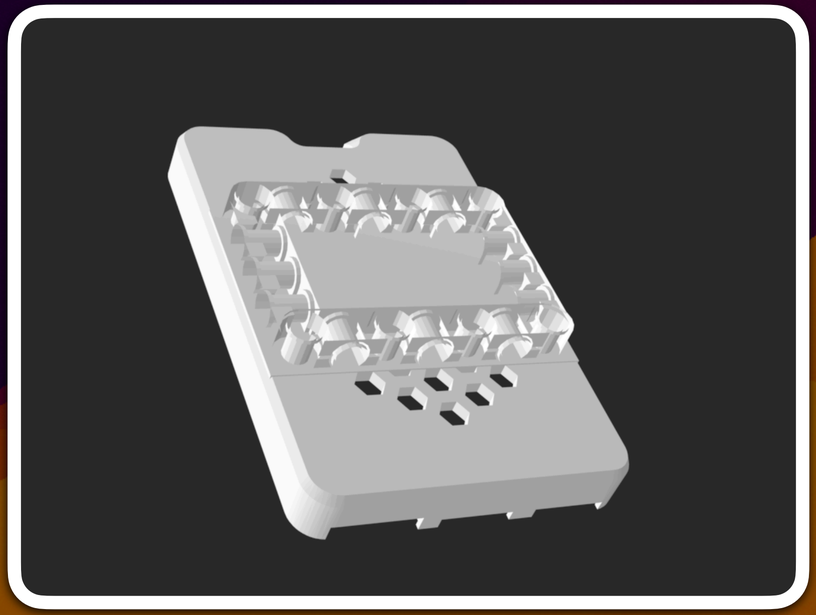


Thus, we decided to start our prototype, with LEGO, to make an arm, which was connected to a Camera.

We also decided to make use of a Raspberry Pi4, which could help be the computer of our solution.

It was used to take and store images, until a suitable WiFi connection is available for the images to be uploaded to the user's google drive.

4: Problems



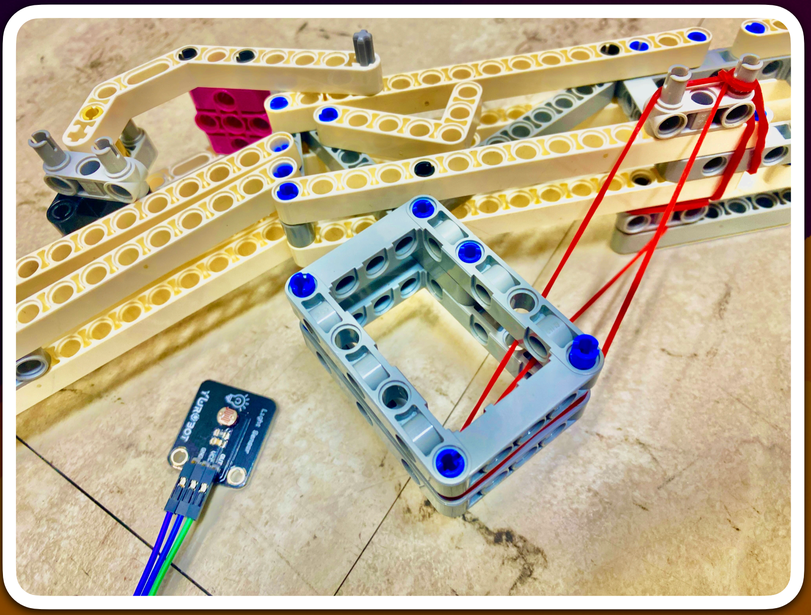
We also realised that it’s limitations.

One limitation was that the arm required a powerbank and a slot for the Raspberry Pi.

Thus, using 3D Prints, I was able to model a hybrid LEGO and Raspberry Pi Case Mount.
This allowed us to attach the Raspberry Pi directly onto the Lego Arm.
It also included a slot for the powerbank, which served as the power source for the Pi.

This also taught me how 3D printing could be used to tackle various problems

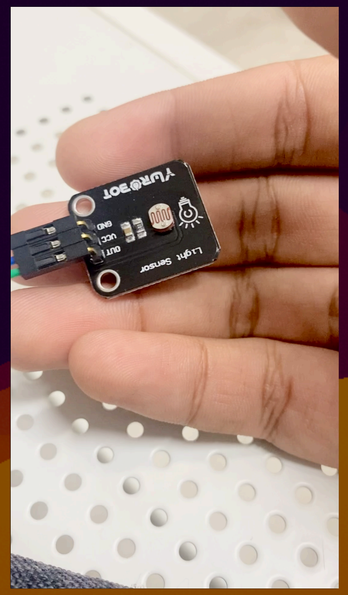
5: Feedback



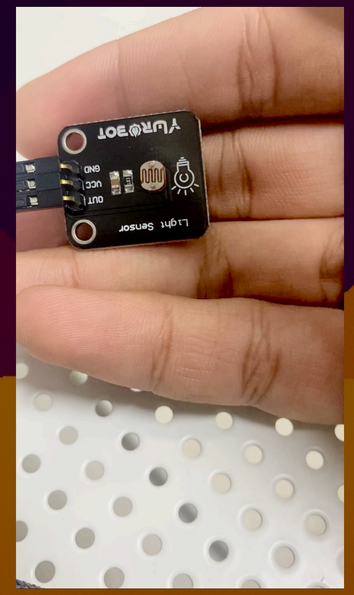
With the help of Timothy,

We found out about another limitation. Timothy tested our device, and we realised that it was difficult for him to press the button which controlled the Servo Motors, connected to the Camera.

6: Solution



Tap



Tap and Hold

Thus, we swapped to using light sensors

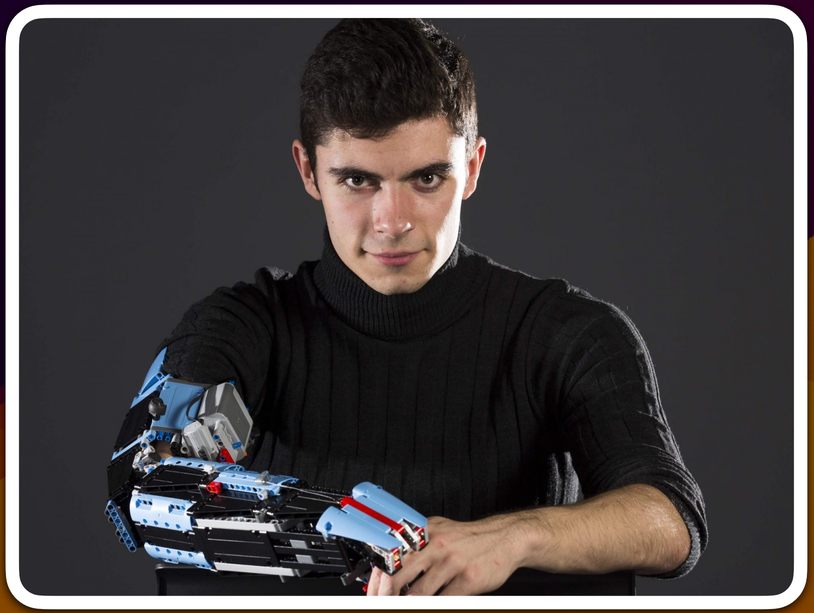
Basic Controls:

Tapping the light sensor, makes the camera take a picture, which is uploaded to a folder in the raspberry Pi

Tapping and holding, makes the camera turn with the use of the Servo Motors connected to a custom mount I created.

T4G

7: Inspiration



David “Hand Solo” Aguilar

He makes manual LEGO Prosthetic Limbs

He built a functional gripper arm for an 8-year old and even bagged a Guinness World record along with it

8: Festival!

Photos Posted By

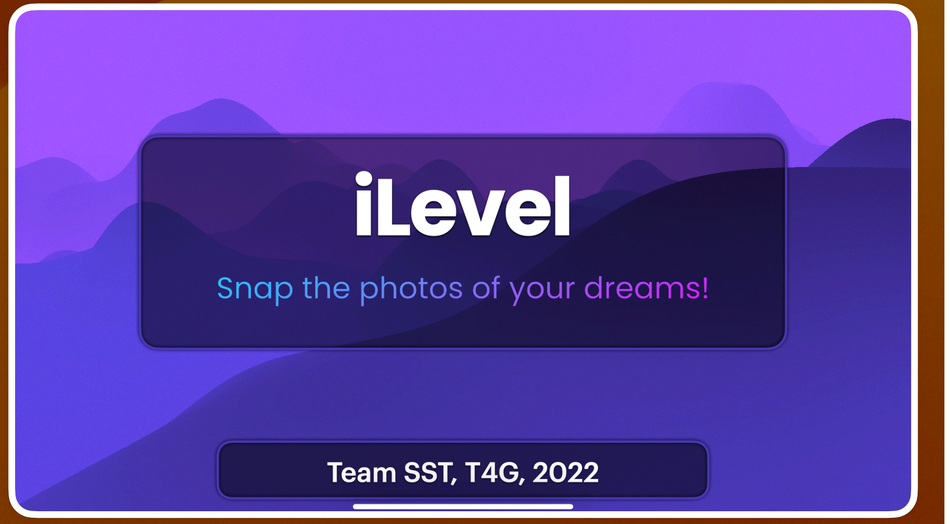
@engineeringgood,
the organiser of Tech4Good

T4G

Tech4Good 2022

Learning Points

- Learnt a lot about Muscular Dystrophy.
- Learnt about Assistive Technology.
- Learnt how to make product pitching esque presentation.
- Learnt the design thinking process all over again
- Learnt how create a real life-size product within a budget.

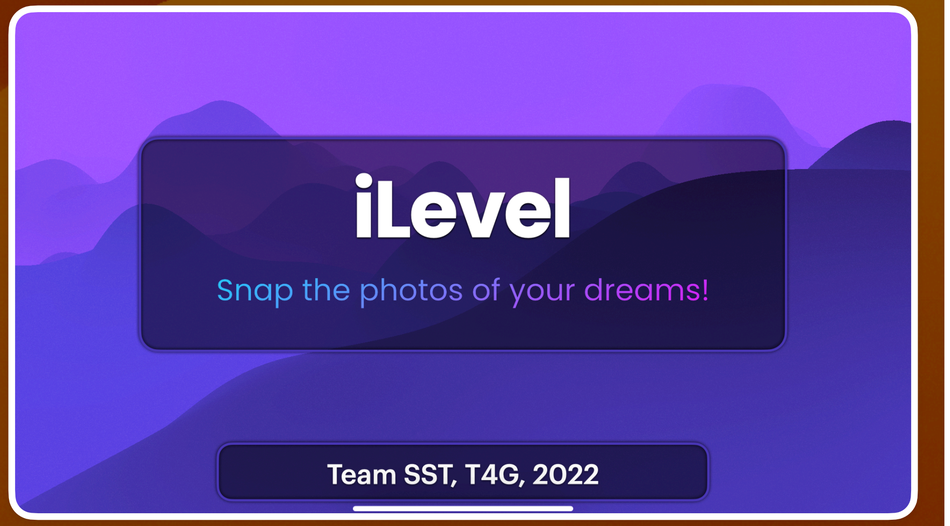


T4G

Tech4Good 2022

Thought Process

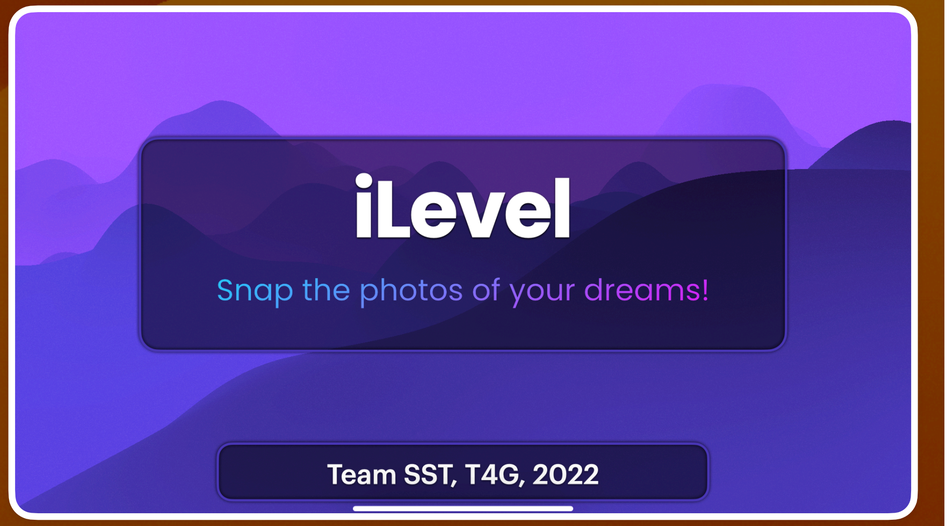
The presentation was first made on keynote.
I tried to make it appealing by adding gradients to the important words, while keeping in mind to make sure its readable by presenting it on a big screen before the actual festival day. The presentation also had gradualling moving backgrounds that sync with the next slide, using Apple's Dynamic background.



Tech4Good 2022

Thought Process

However, I was told to submit as a google slide, so the gradients became a solid blue and backgrounds became static. That was an hurdle to overcome as I love simplistic yet eye-catching design.

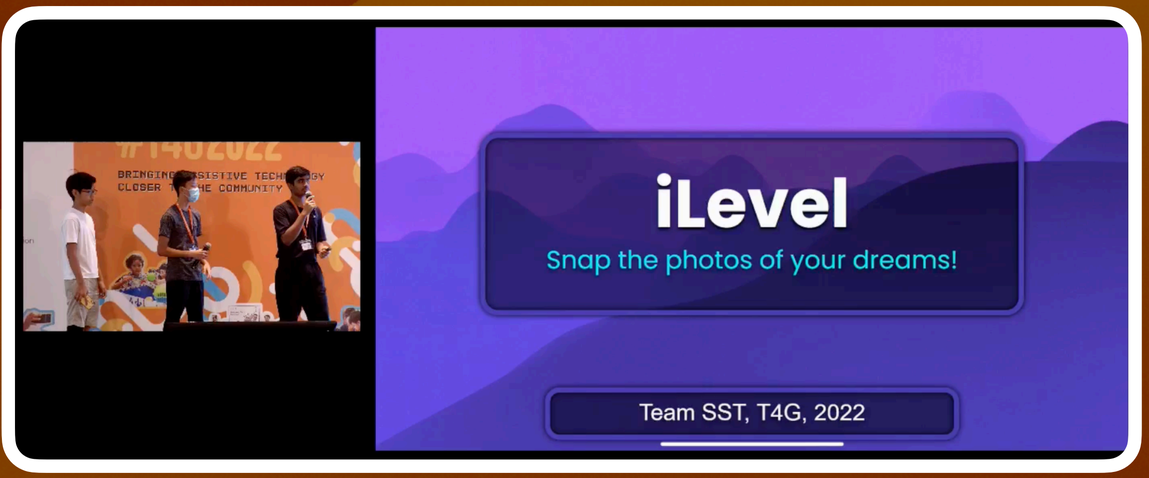


T4G

Tech4Good 2022

Special Mention

I presented on stage during the Tech4Good Festival!



You can watch my presentation here!

T4G

Tech4Good 2022

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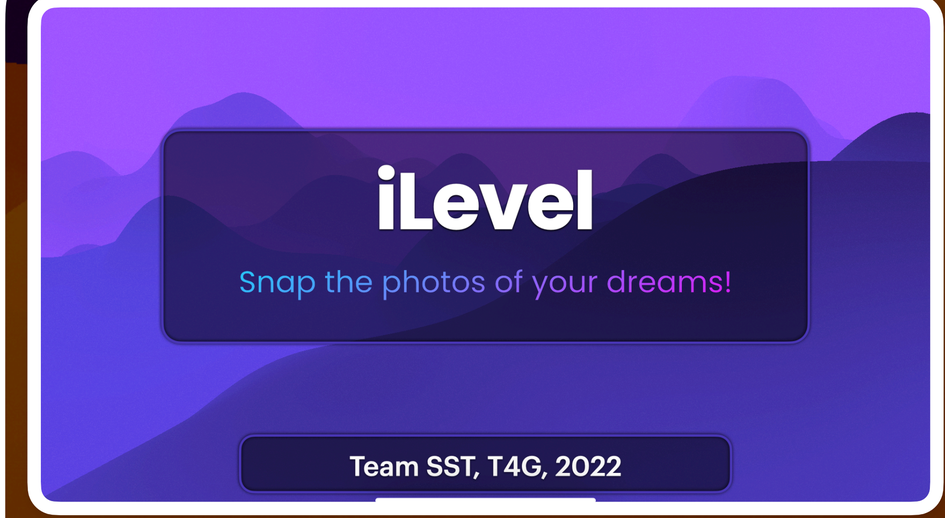

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FLL 2022

FIRST®
LEGO®
LEAGUE

First Lego League 2022

FLL is a robotics competition for kids aged 9 to 16, where they build LEGO robots to complete tasks and work on a research project.

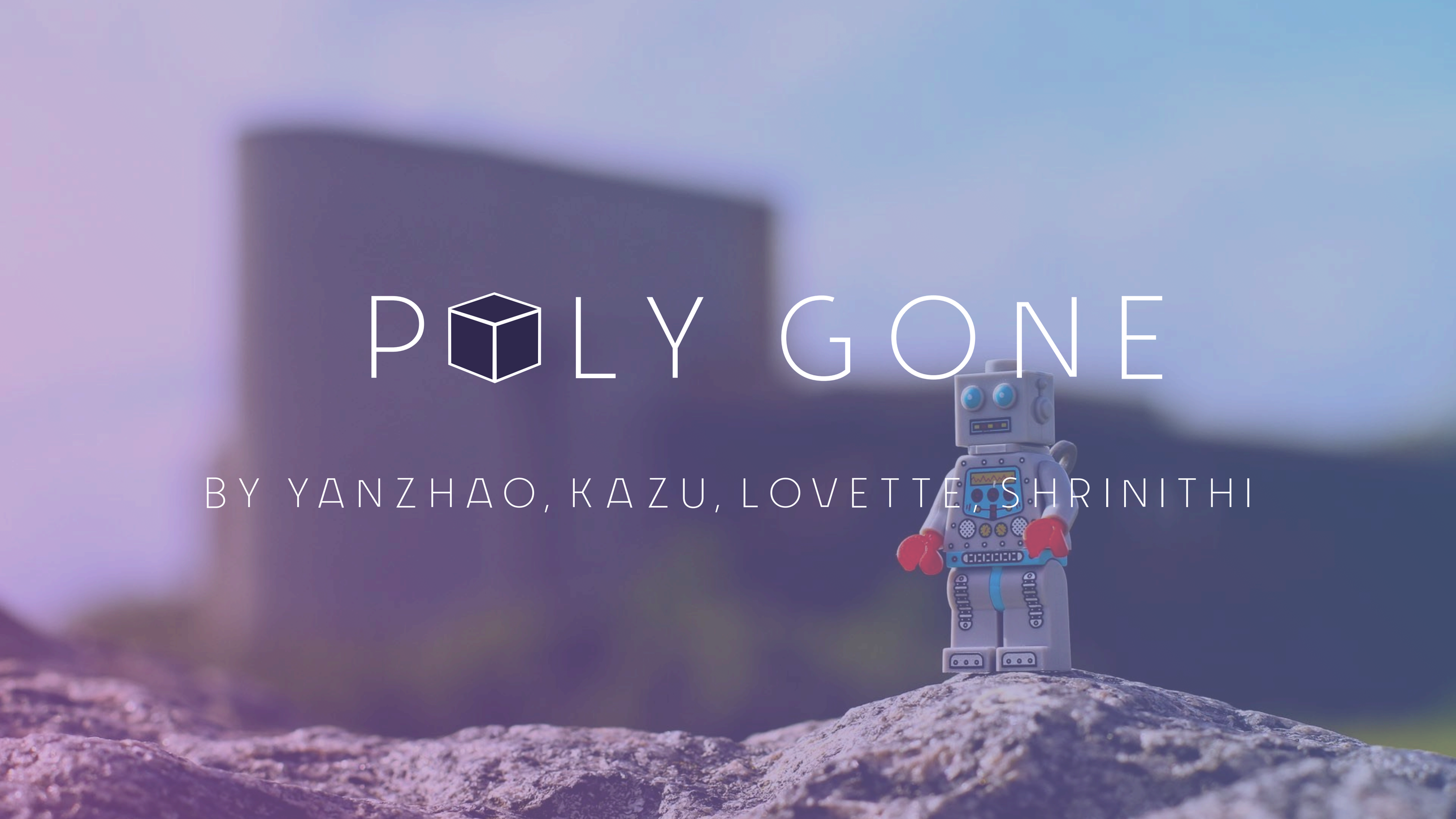
Under the team name of PolyGone, I spearheaded the innovation project.

First Lego League 2022

Not just that, but I also
worked on the design,
of the slides.

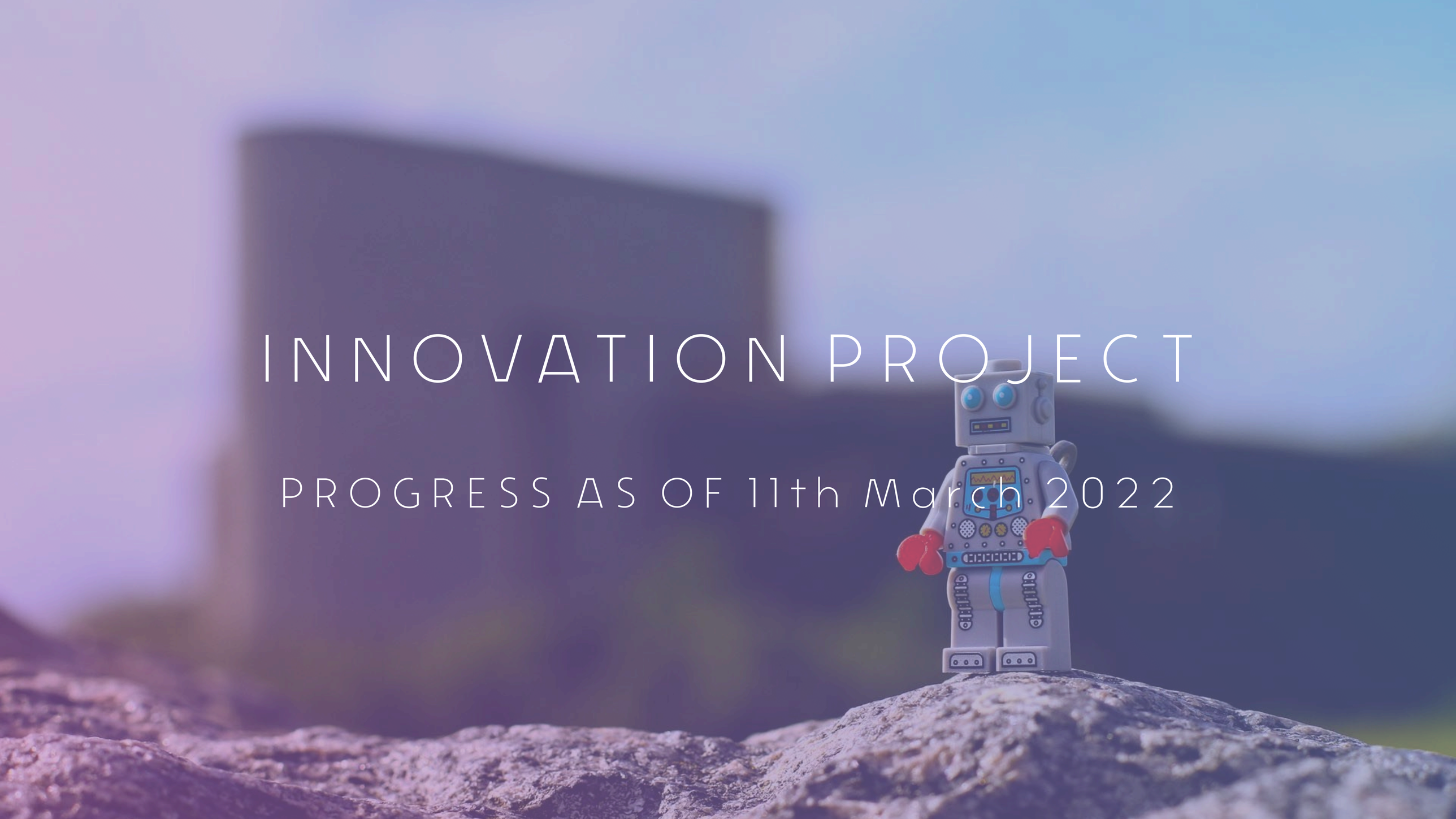
But the innovation project is my
proudest acheivement here.

Anyway,
the keynote starts off like this.



POLY GONE

BY YANZHAO, KAZU, LOVETTE, SHRINITHI

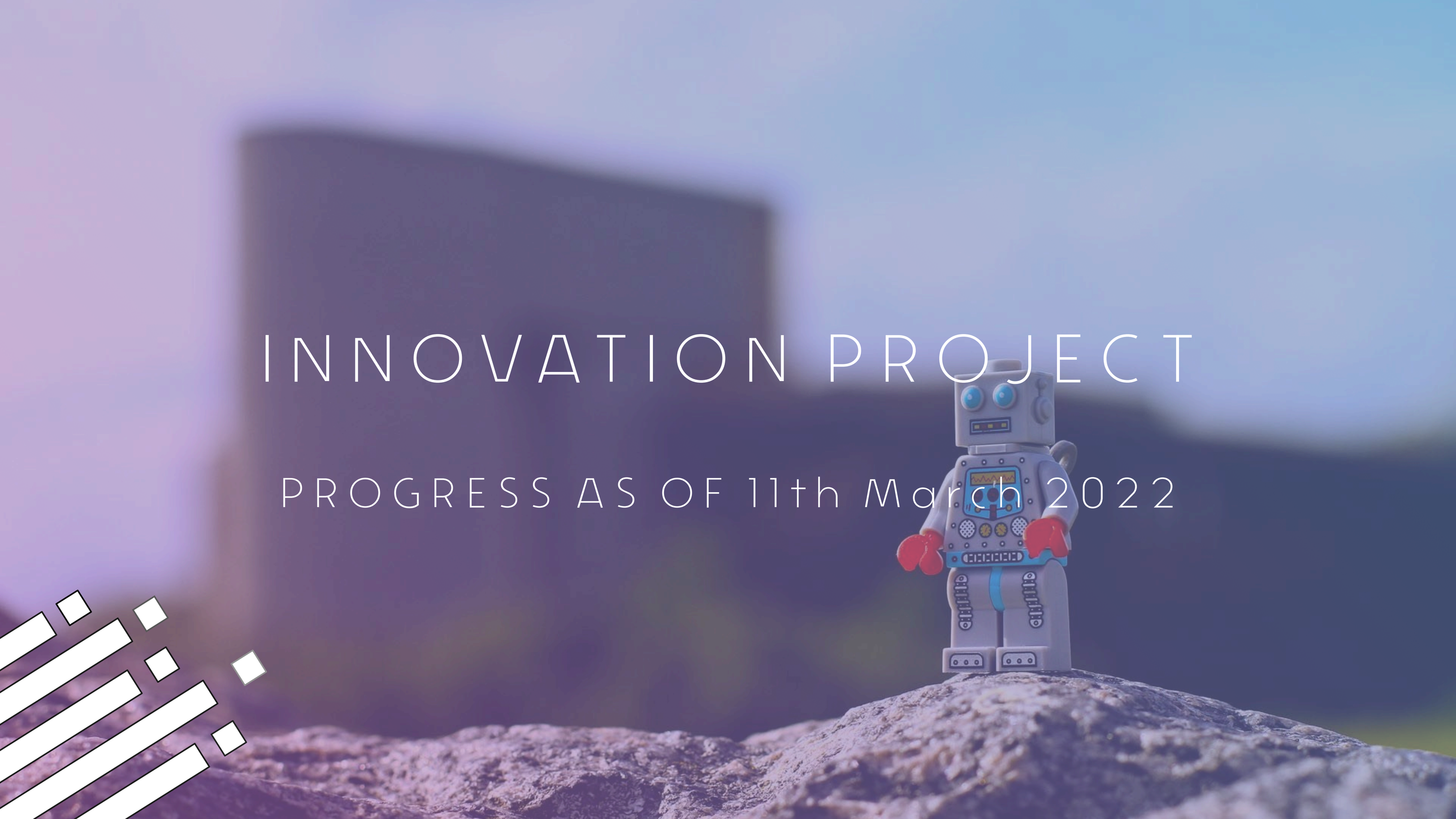


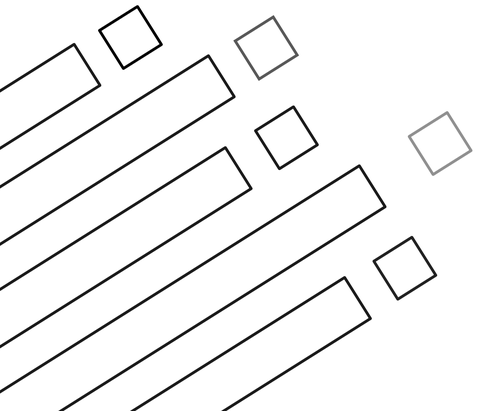
INNOVATION PROJECT

PROGRESS AS OF 11th March 2022

INNOVATION PROJECT

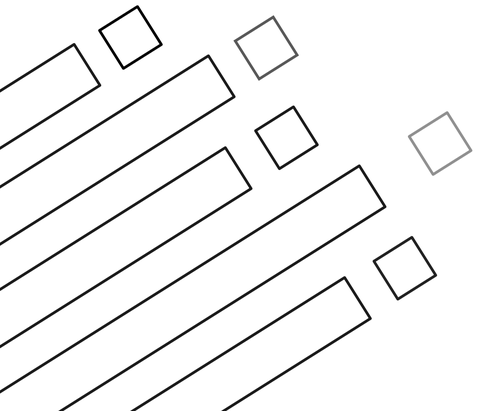
PROGRESS AS OF 11th March 2022





EasyTruck

A Truck Managing App



PolyGone, FLL 2022

First Lego League 2022

I added my FLL presentation here mainly to show my innovation project itself.

So, what is this innovation project, you may ask.

It is a free project, to solve a Real-World problem related to the theme of the year.

Research a Problem

Design a Solution

Present the Solution

Research a Problem

The theme of FLL 2021-2022 was,
Cargo Connect.

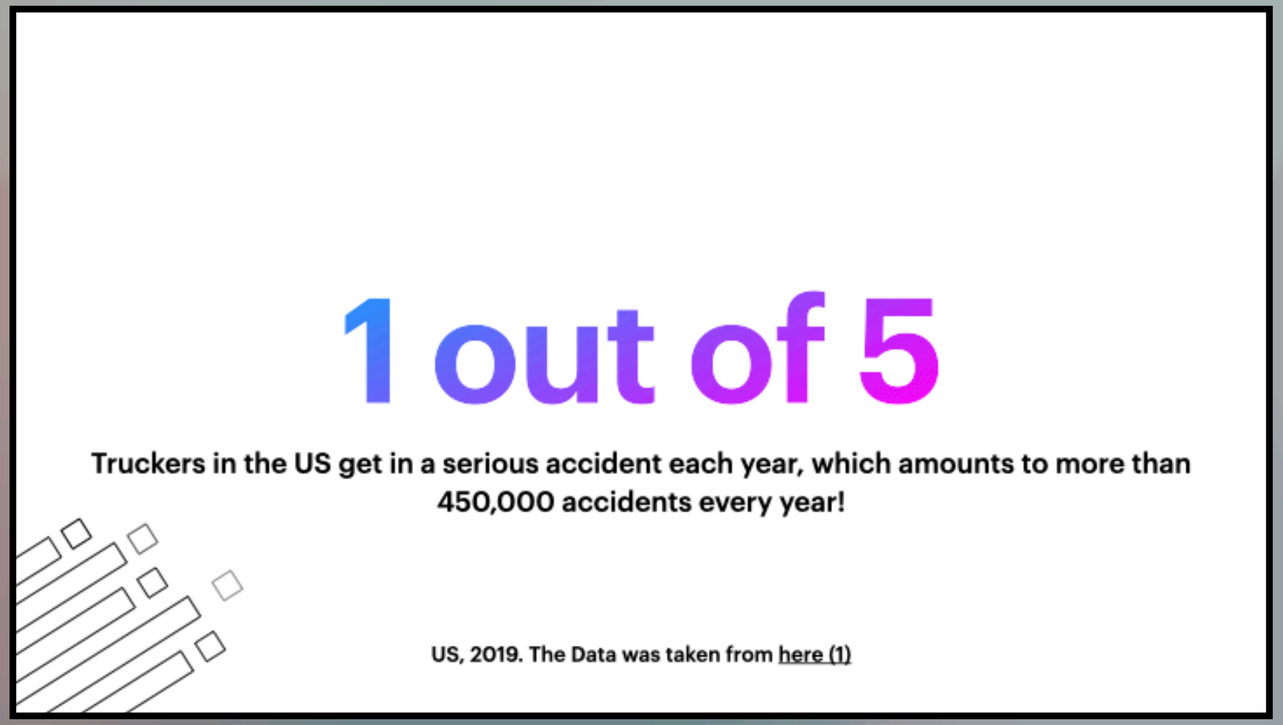
Thus, I had to identify
a problem in **transportation.**

Research a Problem

From watching videos online,

I noticed that DashCam Footage almost always involved a truck crashing or tipping over.

And usually, the trucks end up not only causing accidents, but also getting tangled in other accidents.



Research a Problem

Thus, I decided to dig up more and find potential reasons for this.

First up, I got the obvious reason out of the way.

Research a Problem

Trucks are heavy.

They are meant to be heavy.

Due to their high loads,
trucks require high amounts of
stopping power to slow down.

This results in longer braking
distances.

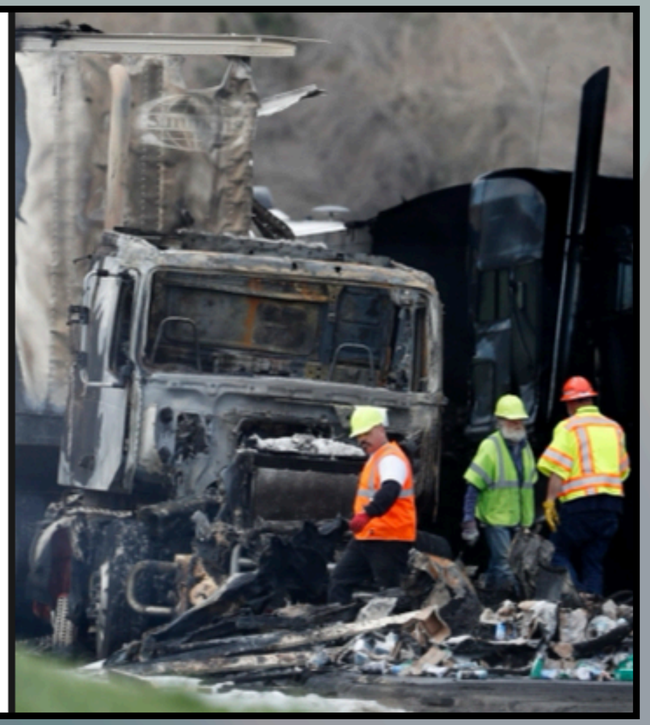
Research a Problem

Well the weight of the truck cannot be changed directly.

But, WHY else are they still crashing or toppling over **so much?**

The Problem

Truckers are crashing their truck in accidents, but why so?



Research a Problem

So I decided to look at the load (of the truck) through other dimensions.

As a fan of Formula 1 Racing, and Physics, I applied my knowledge to figure out reasons trucks toppled over.

Research a Problem

Thus, I decided center of gravity and weight balance played a key role.

But how does this link with XPD?

Design a Solution

Introducing,

Easytruck.

Welcome, Joe
Your Truck
Joe's Truck
Current Load:
60% Full
60%
Current Weight:
1965 Kg
Maximum Load: 3275Kg
EasyTruck - V2.7
Start a Journey
Remap Truck
Settings
Truck
Loads
Other/More
More Options
Add a Load
Add a Rule
Add Details

Back
Welcome, Joe
Your Truck
Joe's Truck
Maximum Load: 3275Kg
Current Load:
60% Full
60%
Current Weight:
1965 Kg
1965Kg
Model:
13PolyGone
Weight:
600Kg
License Plate No:
T1F05I
Class:
S
Year Bought:
2023
Strength:
32750N

EasyTruck

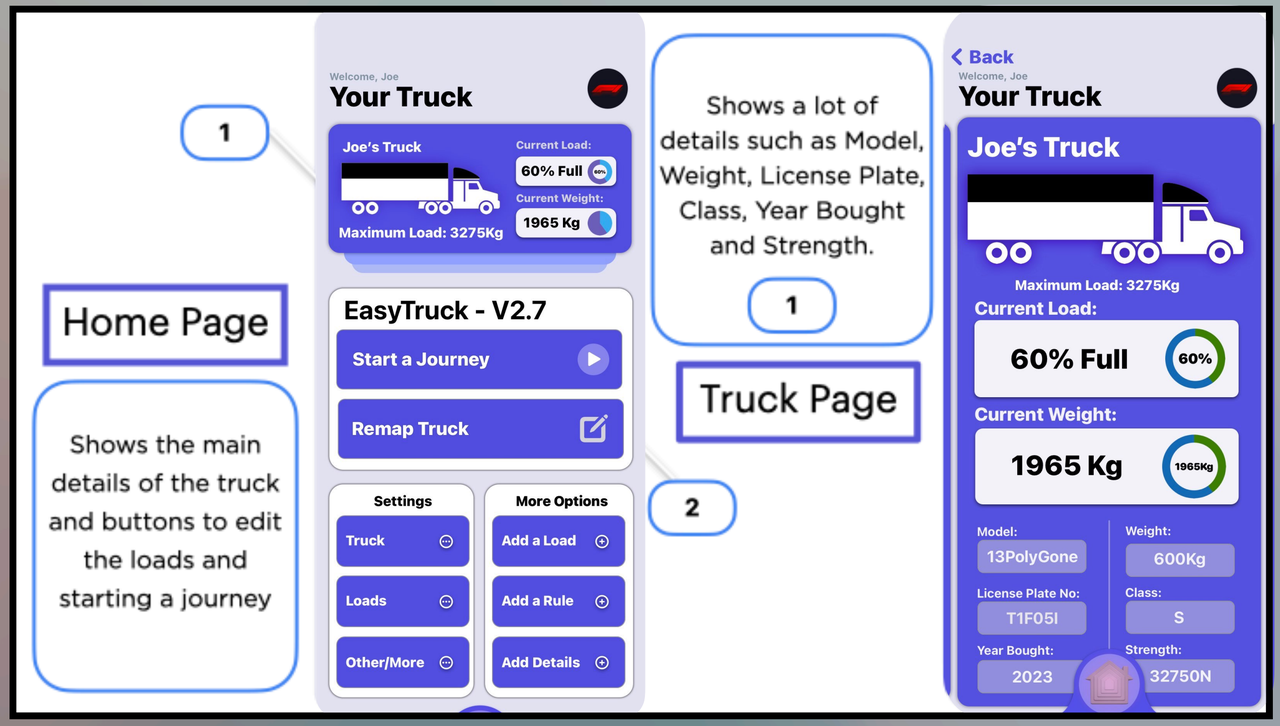
A Truck Managing App

Design a Solution

I created the App UI for Easytruck.

I created the UI on Sketch, which is very similar to Figma.

As XPD uses Figma, I think this would be a big help in jumpstarting my journey in XPD.



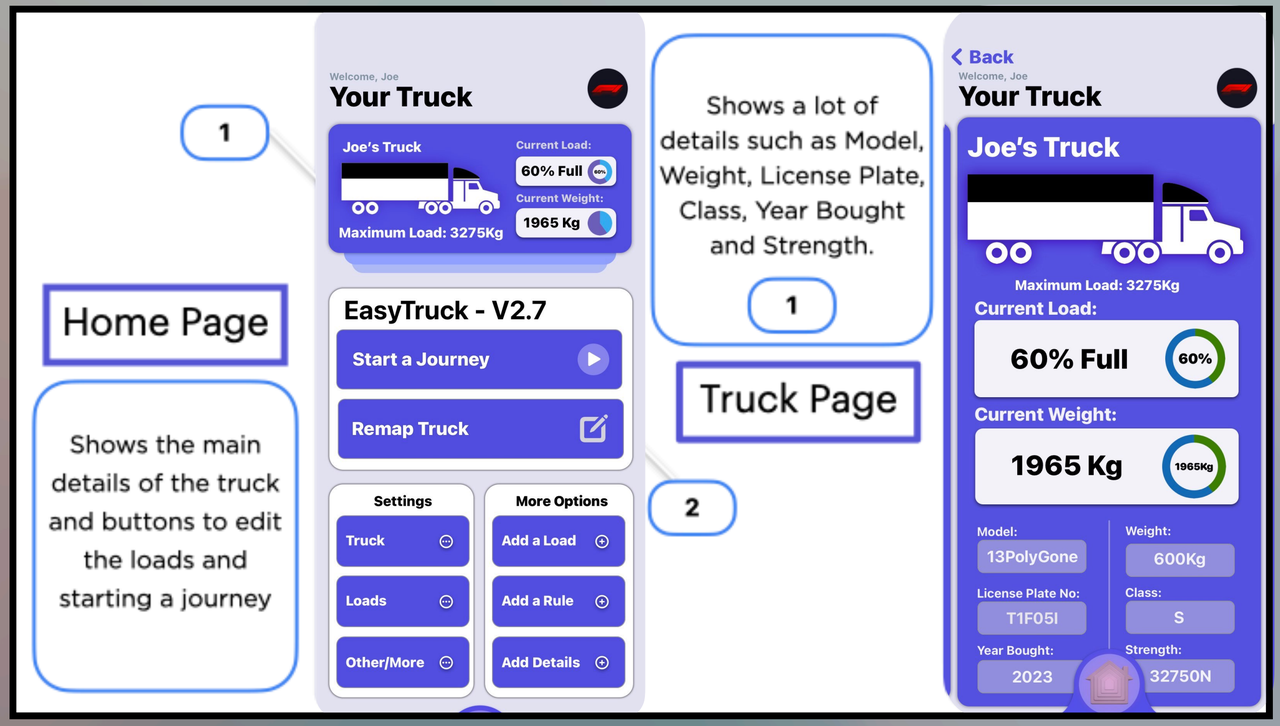
Design a Solution

I did not only focus on the UI, but

I also focused on the UX of the app.

The layout, and the typography, all help out with the experience of the user.

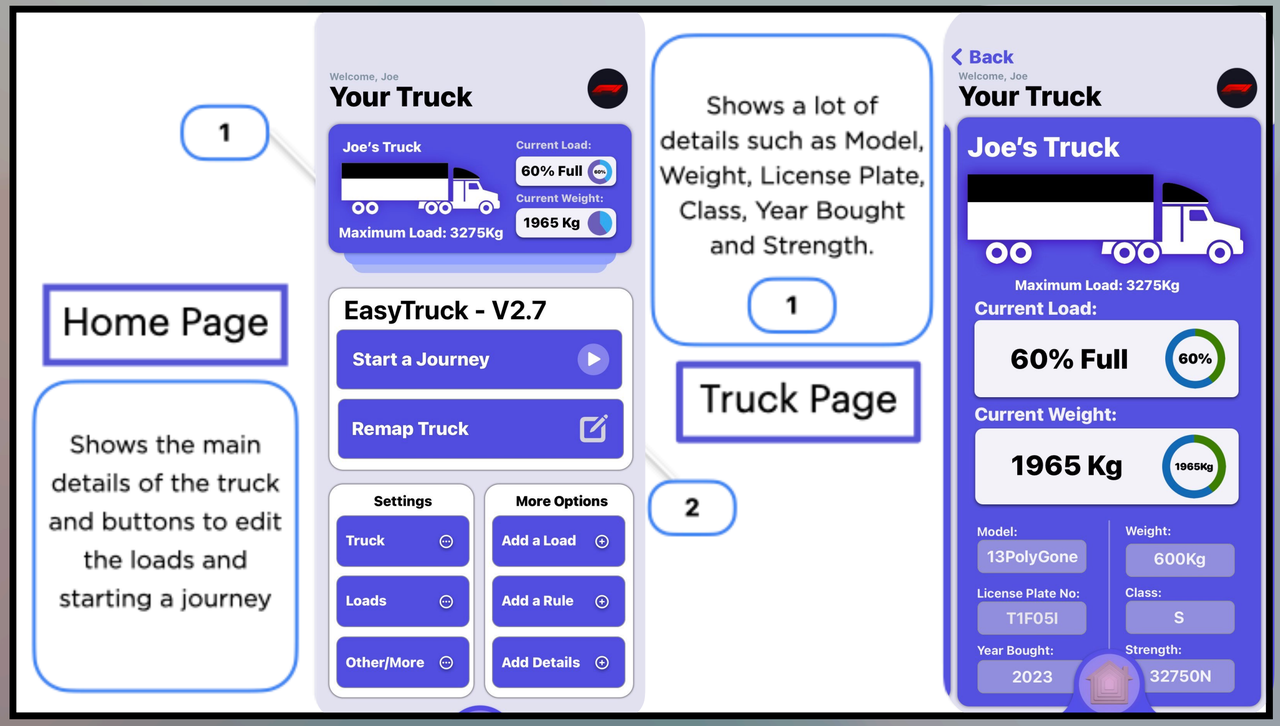
Here, are some pages of the App UI, and features of the App.



Design a Solution

As a fan of Apple's design scheme, I took inspiration from its App Store app, for the top of the page.

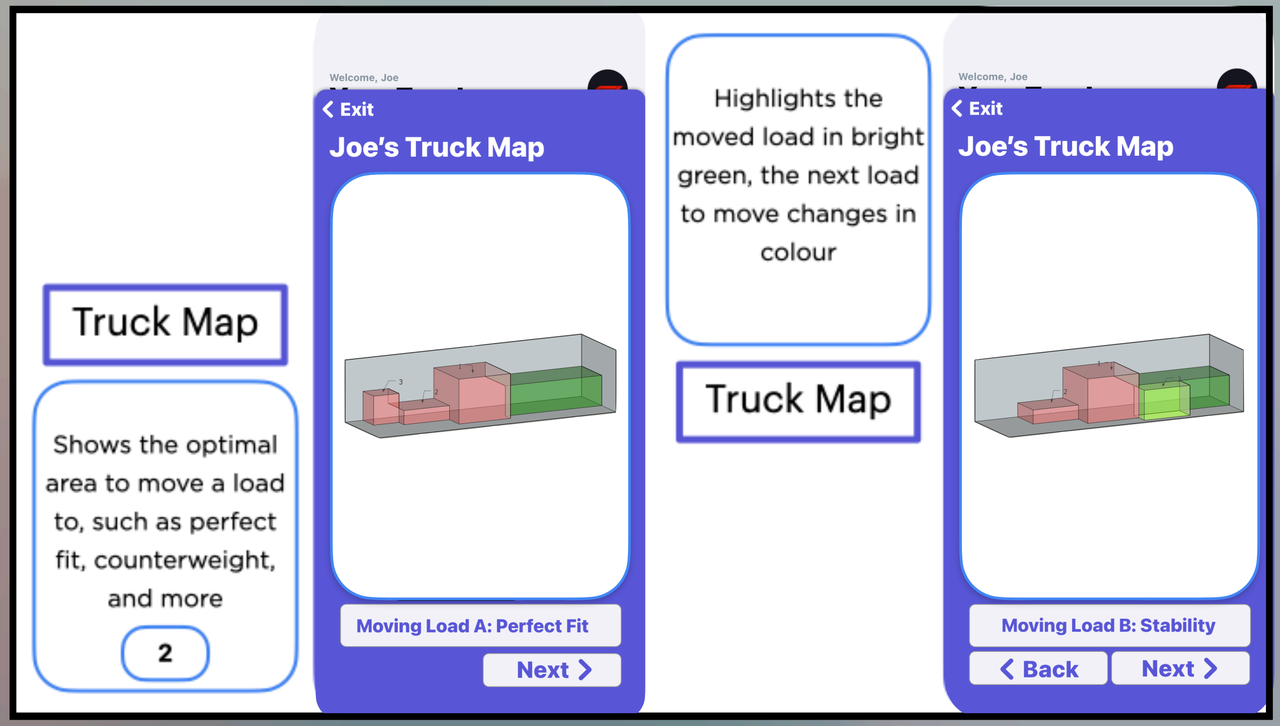
The rest of the page
was created with Apple's focus on Spatial Design and Accessibility in mind.



Design a Solution

This main purpose of the app is to show the truckers (target audience) and truck loaders where to best put each package. (To lower COG and improve stability)

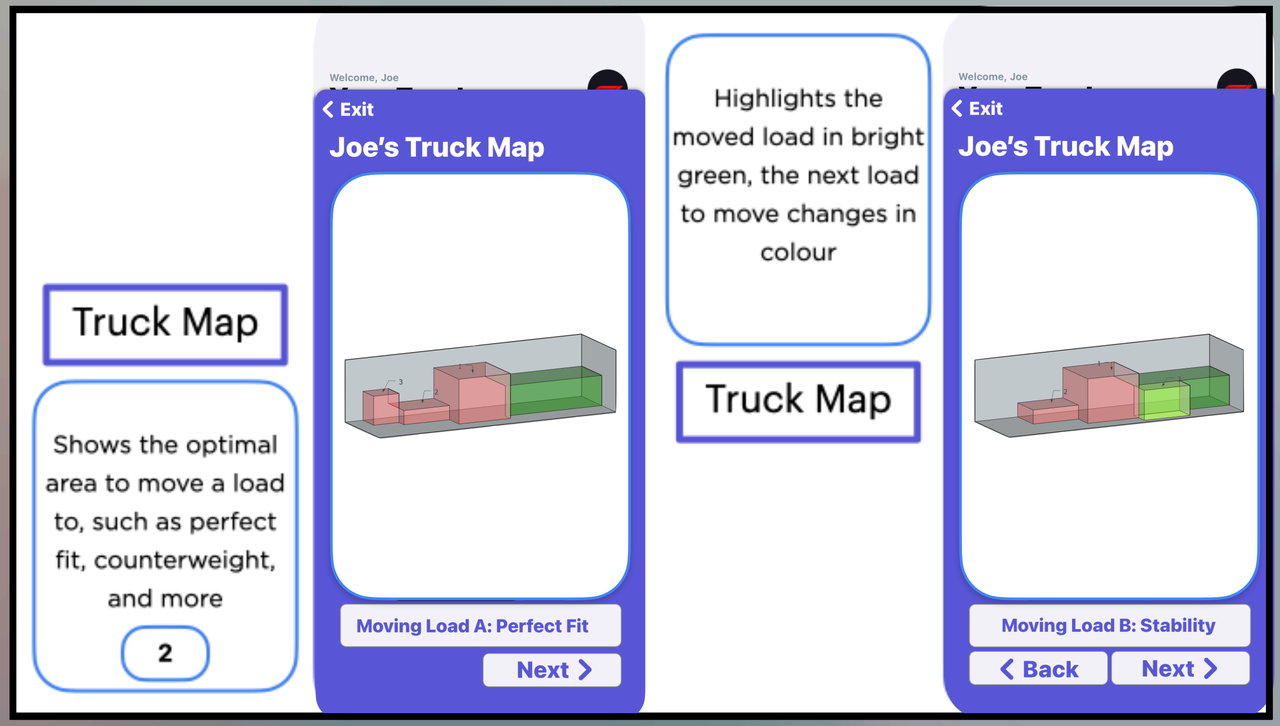
The details of the packages will have to be added by the trucker, but an API could also be used to manage that automatically.



Design a Solution

This app also shows the reasons why a package would be better placed at a certain area, such as Perfect Fits, Counter Weight, Stability and similar.

It also highlights the items to be moved, making it easier to visualise.

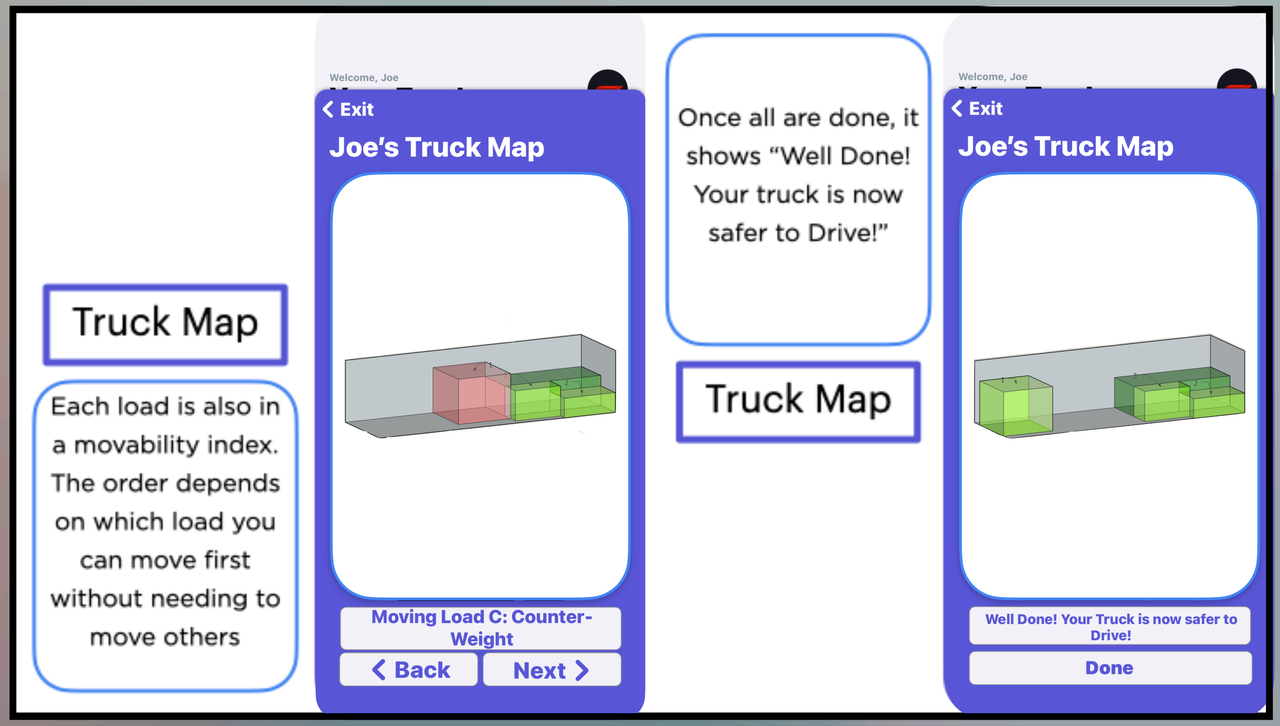


Design a Solution

To improve experience, there is a movability index.

This will order the steps.

This will also decrease the how much other items have to be moved for to move a specific load to its best postion.



Design a Solution

Thus, this app could reduce accident rates and prevent most crashes.

If this app gets picked up by major shipment/cargo companies,
this app could potentially reduce interruptions in supply chains.

Learning Points

The whole experience of FLL 2022, taught me how to properly choose a target problem, target user, and design a solution.

It also taught me how to create an Apple-esque Product Mockup Screen.

Special Mention

After PolyGone's presentation to judges, where I presented the innovation project, and my teammates presented the sections they spearheaded,

The judges commended me for the EasyTruck Animation and the App UI,
and the idea overall.

The Champions Award is given for overall performance, over Robot Design, Game Score, and the Innovation Project.

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