

AnyAdapter

万接站

Wheelchair accessories
solution for PRM users

By Freddie, Sebastian, Marissa

01

Concept & Research



Why **Any**Adaptor?

The adaptor we're building will not only ease the difficulties of taking necessities with our wheelchair users, but more importantly satisfy their potential interests that enriches their life so that they could live the life as if they're without the disabilities.

Insights

- **the design wisdom:** 80% of the determined, universal, 20% of the customized, individual
- **aesthetics** matters, especially among young people
- **collecting and blending:** taking existing parts from bicycle accessories and combining them together save our time 😭



Evelyn Zhang



"When it comes to a good product, price is never an issue"

Age: **28**
Work: **Social worker**
Family: **Father, mother**
Location: **China, Shanghai**
Character: **Kind, optimistic**

Wheelchair Experience

Evelyn was severely injured since 16, therefore, she started using wheelchair as an alternative to get around. She has an experience of usage over 10 years and has tried different types or brands of wheelchair. She's currently using one driven by electricity. It costs around 20 thousand RMB but with high quality. But she has few accessories around her wheelchair.

Goals

- Get more convenient ways to use multiple items
- Let the wheelchair have more expansion and explore more possibilities
- More activities and work can be done simultaneously in a wheelchair
- Have a easy control over the wheelchair as well as the accessories equipped on it

Frustrations

- Limited upper body strength and hand mobility
- Difficulty in working due to placement of accessories
- Unable to do multiple tasks at the same time in a wheelchair
- Many operations require strength, which isn't user-friendly enough

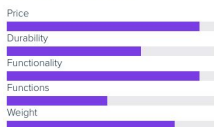
Bio

Evelyn suffered an accident when she was 16 years old, causing damage to her spine and loss of mobility in her lower limbs. Therefore she had to use a wheelchair to carry out her normal life. Due to the damage to her spine, her mobility in her upper limbs was also affected to a certain extent. Although she can still do most things with her hands, her strength is very limited. Despite this, Evelyn still maintains a very optimistic attitude towards life. "Ever since the accident, I have lived every day as if it was my last." Evelyn found that with this attitude towards life, she seemed to be happier. After studying for a master's degree in psychology, Evelyn became a community worker, dedicated to helping more people with similar difficulties to herself. She hopes that the function of her wheelchair will be further improved so that she can have stronger work ability and entertainment experience.

Accessible Environment

The accessible environment in Shanghai ten years ago isn't friendly for many wheelchair users, the government built special channels for wheelchair users only to complete general political targets. Therefore, as a wheelchair user, Evelyn seldom went out during weekdays, she mainly used them at home. On weekends she might go out but for short distances, approximately 3-5km is the amount of her activity outside. While with the awareness of building this accessible environment, she can now go out without much concerns, her activity amount would reach 1-3km per day. However, she still discover that our society lacks better services and larger proportion of accessible environment covering the whole city. She still find Unisex restrooms or accessible passage hard to find or difficult to use. Building the accessible environment is still a long way to go.

Preferred factors of Wheelchair Accessories



Wheelchair-User-Based Survey

Below are several findings during our research process regarding wheelchair accessories:

- A large proportion of people with **limited mobility in their upper body**
- **market blank** for sophisticated accessories
- **functionality and convenience** matters the most, regardless of the price

02

Showcase



Functions Provided

01

Adequate weight tolerance & Good Stability

02

Moderate Weight & Simple Power Connection

03

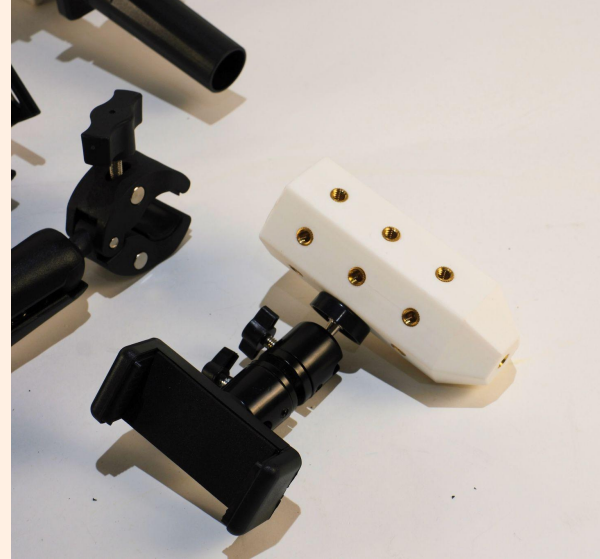
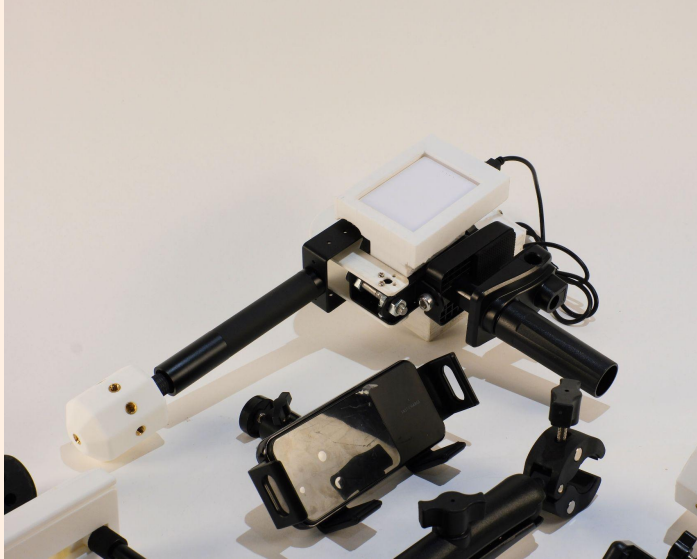
Dual holders that fit almost all the wheelchairs

And More: **Adapt anything you want!**

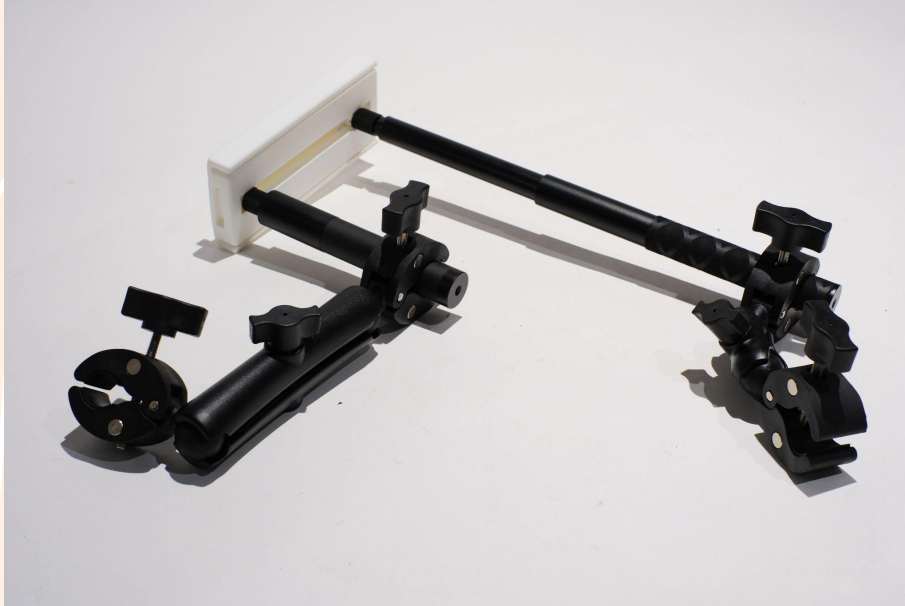
Demonstration



Captured Details



Captured Details

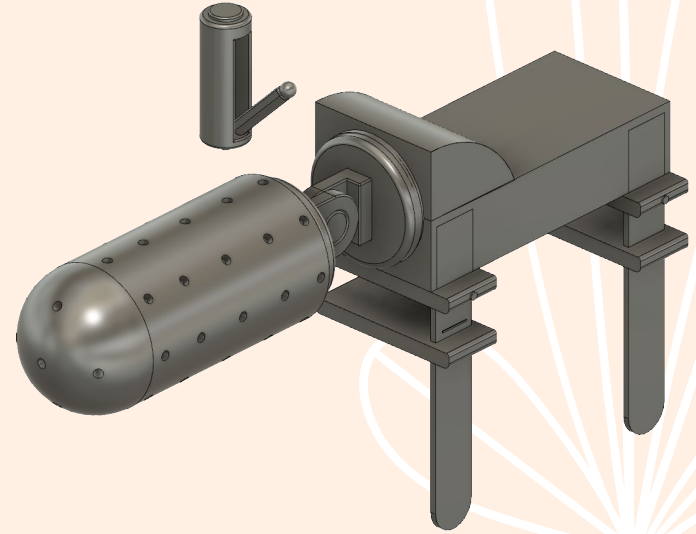
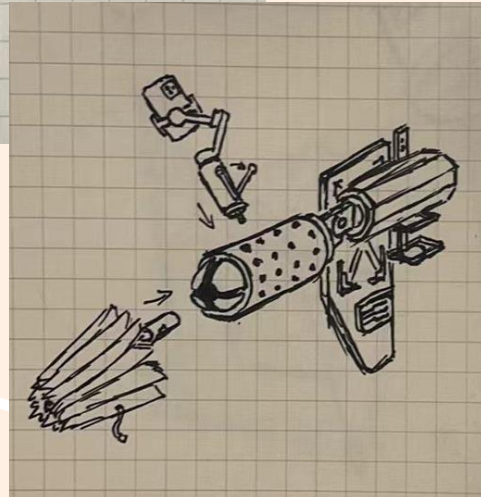
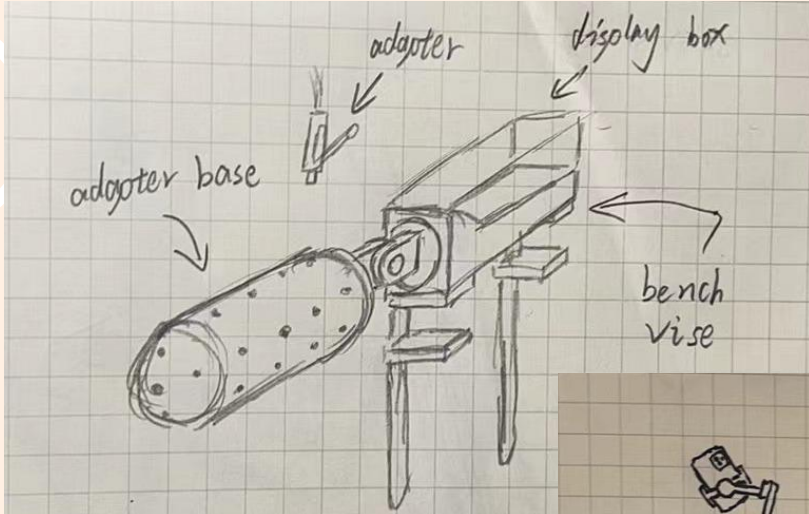


03

Codesign, Build & Fabricate



Initial Sketch & Model



Work Division

Sebastian

Work on the base design and two alternative installation methods towards the wheelchair. Material purchase for base and installation, and other connections. Work with Michener and Siyi.

Marissa

Working on the installation for the shell case and how to connect adaptors to base. Material Purchase for installation design. Connected with Emma and Michener.

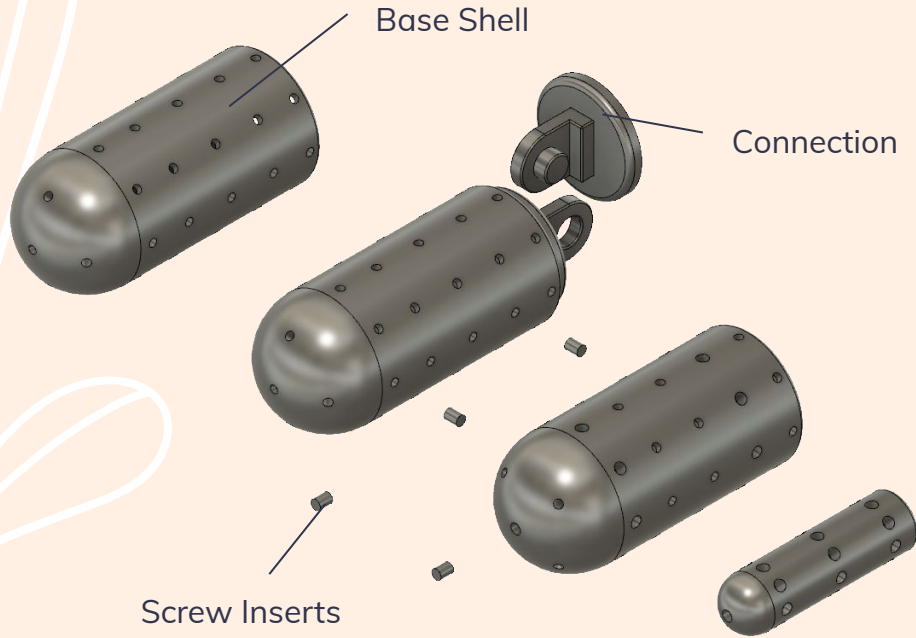
Freddie

Work on the motor and joystick for actuating the adaptor. Material purchase for motor and its structures. Work with Rudi and Michener. Connect with Emma and Paul.

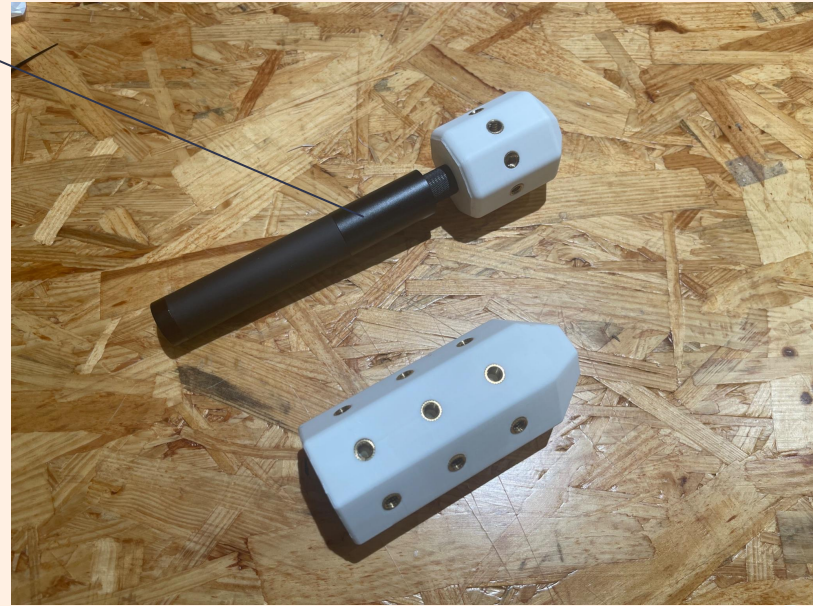
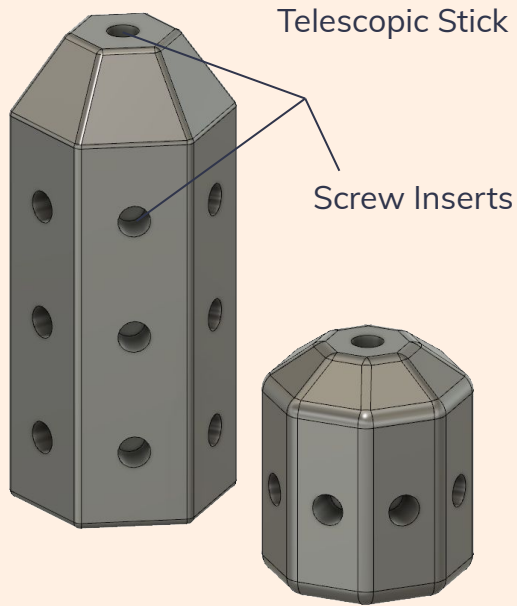
Sebastian

- Work on the base design and two alternative installation methods towards the wheelchair.
- Material purchase for base and installation, and other connections.
- Work with Michener and Siyi.

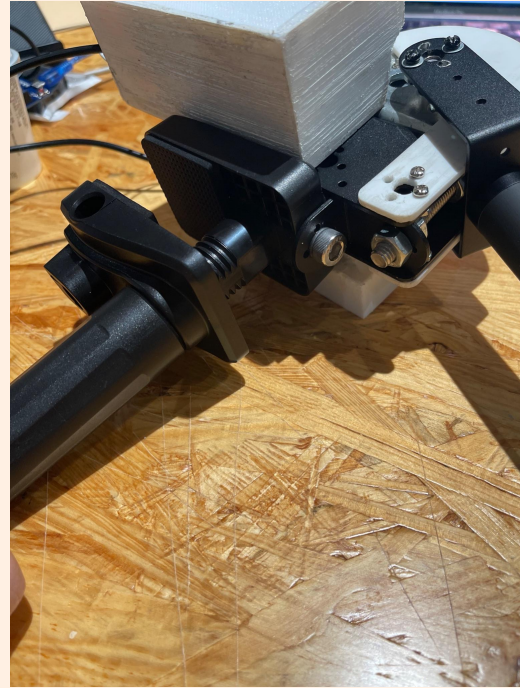
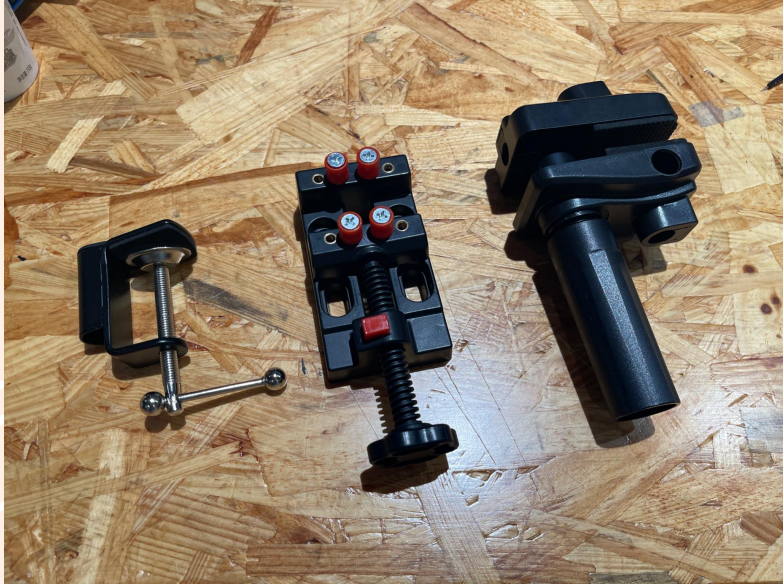
Base Design: Exploring Needs



Base Design: Exploring Needs



Co-Creation: Designing the Installation

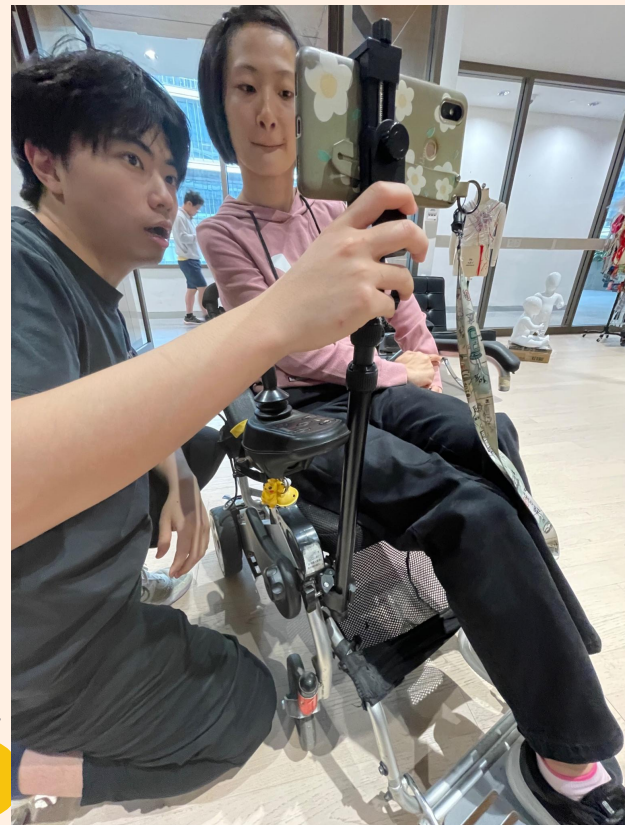


Co-Creation: Designing the Installation

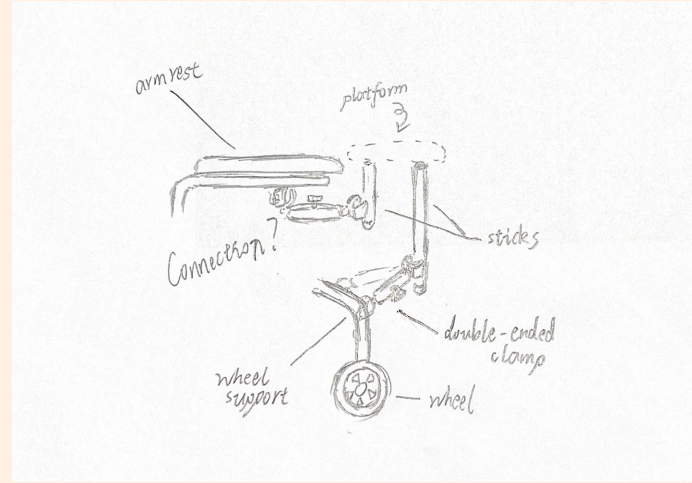


Michener

Siyi



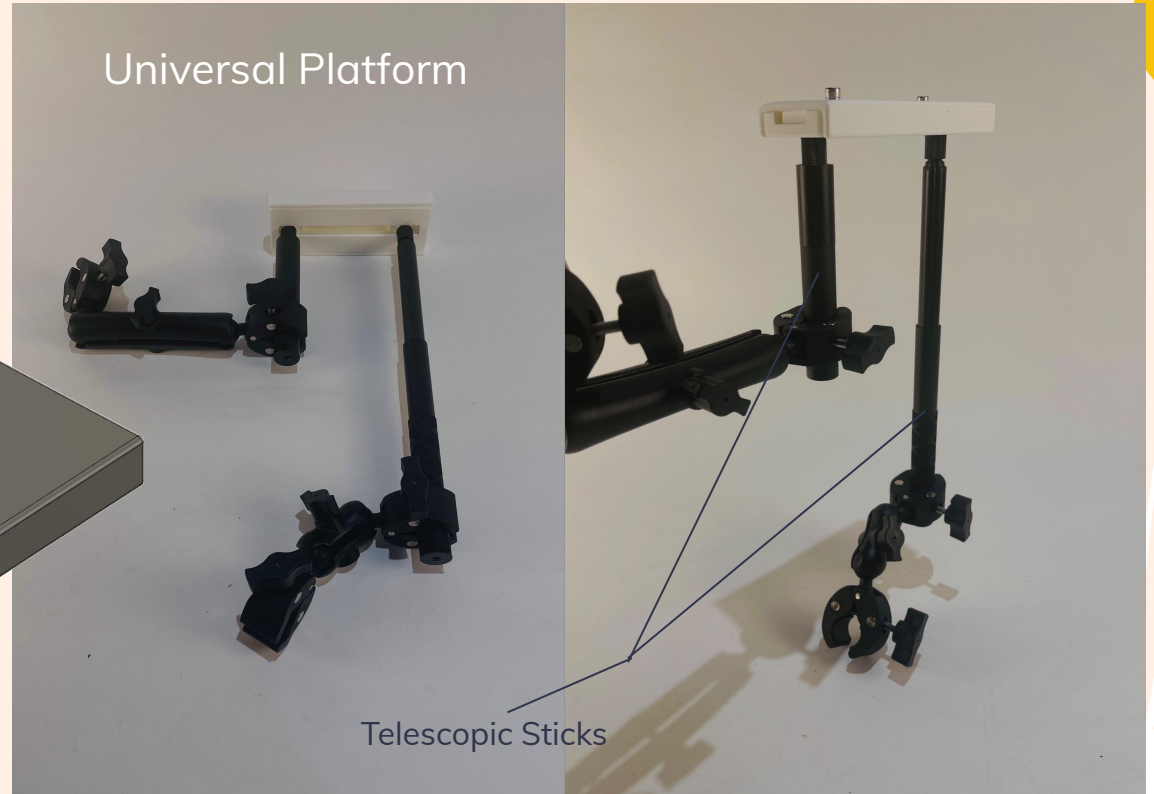
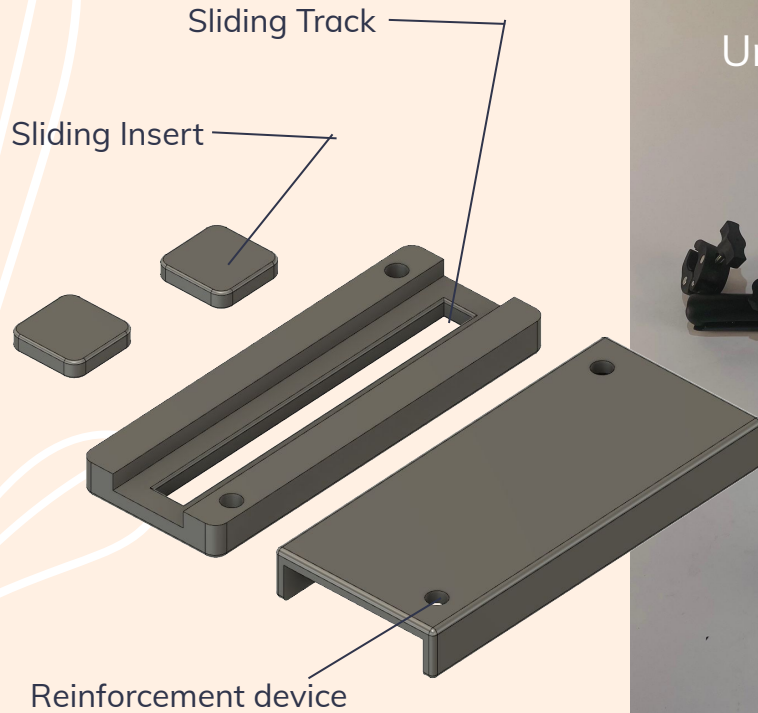
Co-Creation: Designing the Installation



Armrest

Wheel Support

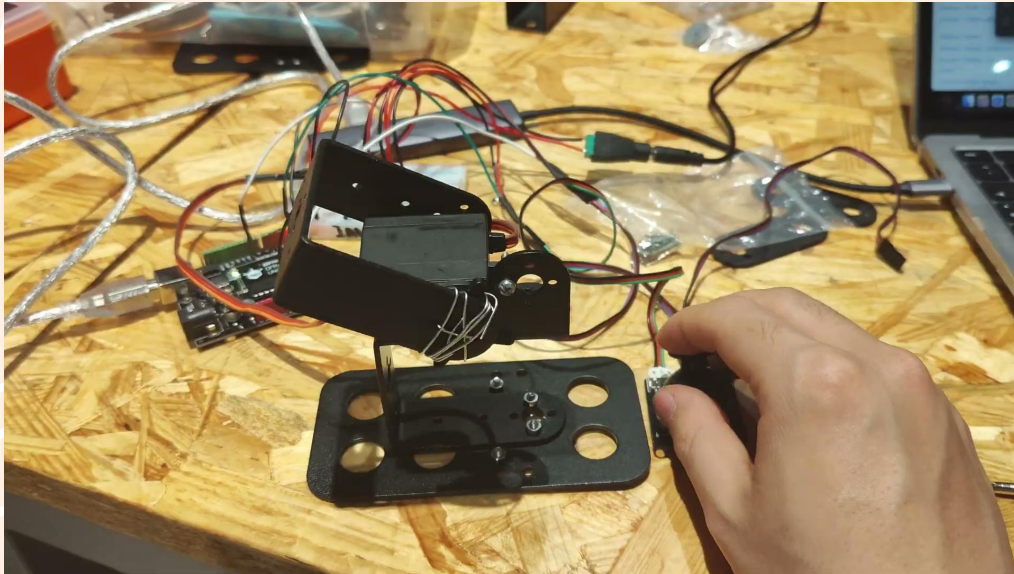
Co-Creation: Designing the Installation



Freddie

- Work on the motor and joystick for actuating the adaptor.
- Material purchase for motor and its structures.
- Work with Rudi and Michener.
- Connect with Emma and Paul.

4 Phases with the Motor



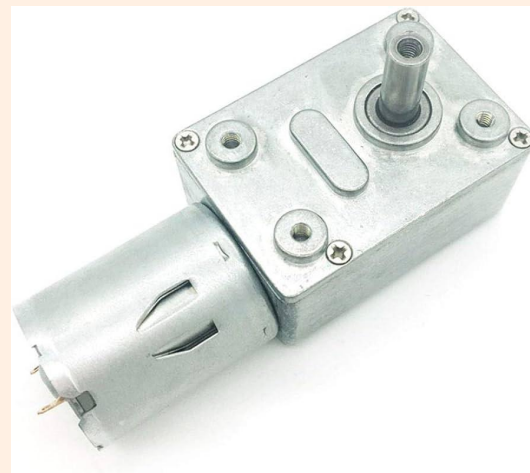
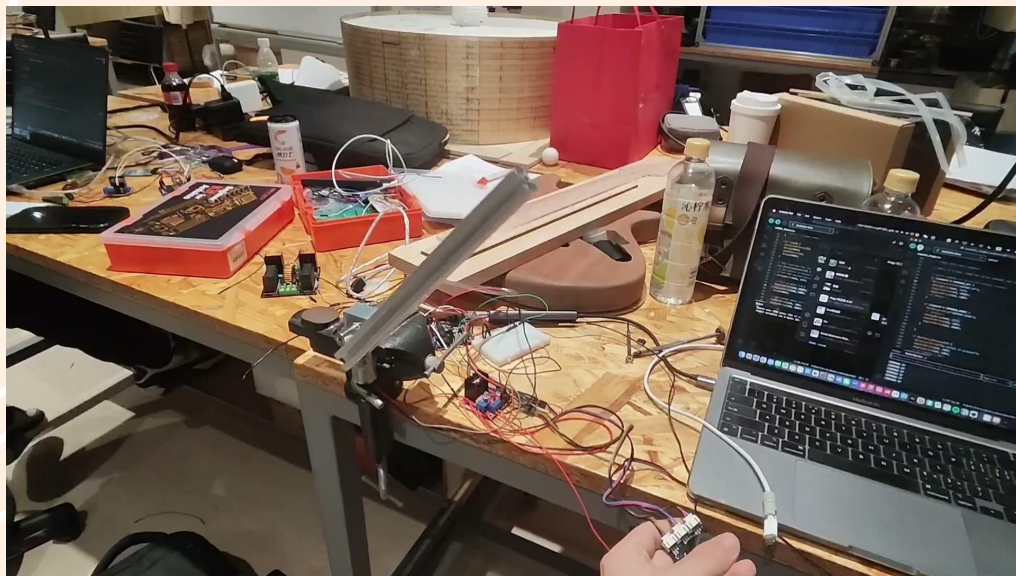
MG996R Servo Motor

Trying Higher Torque



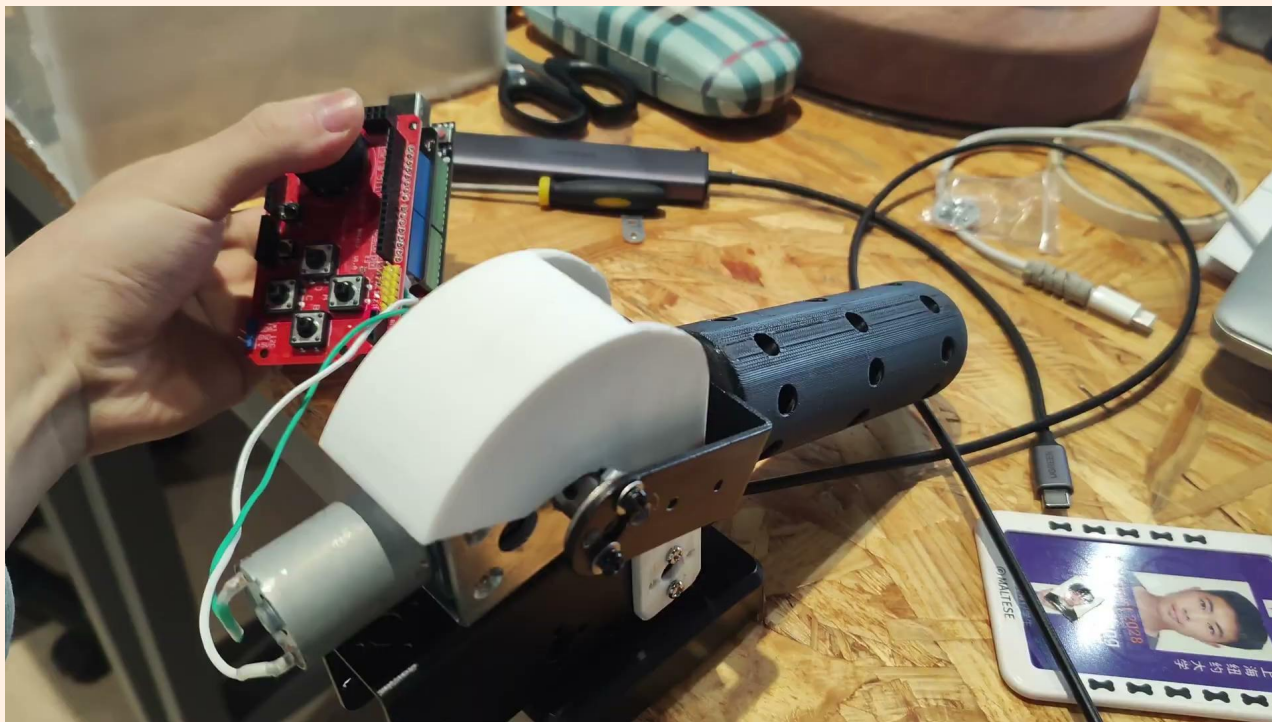
Ds3235 35kg Servo

After talking to Michener...



JGY-370 6V DC Motor

Adding on the structures...



Wiring & Circuits

3-layer
controller board:

Gathering each function

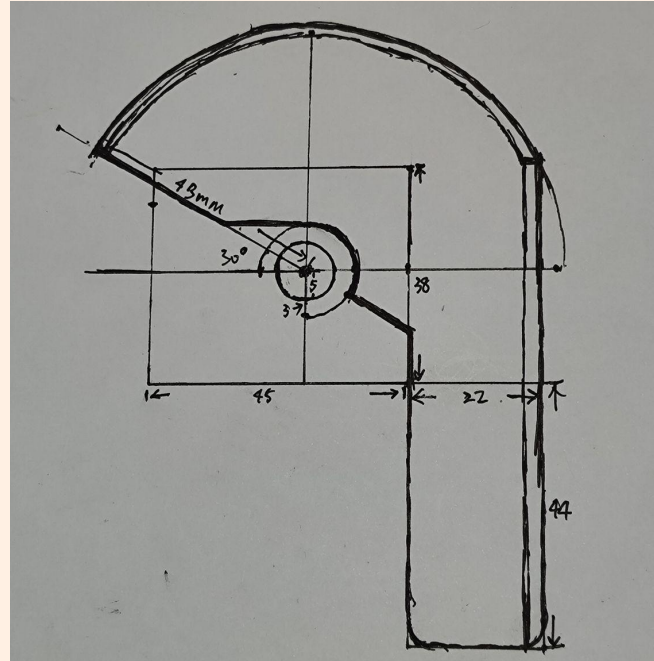
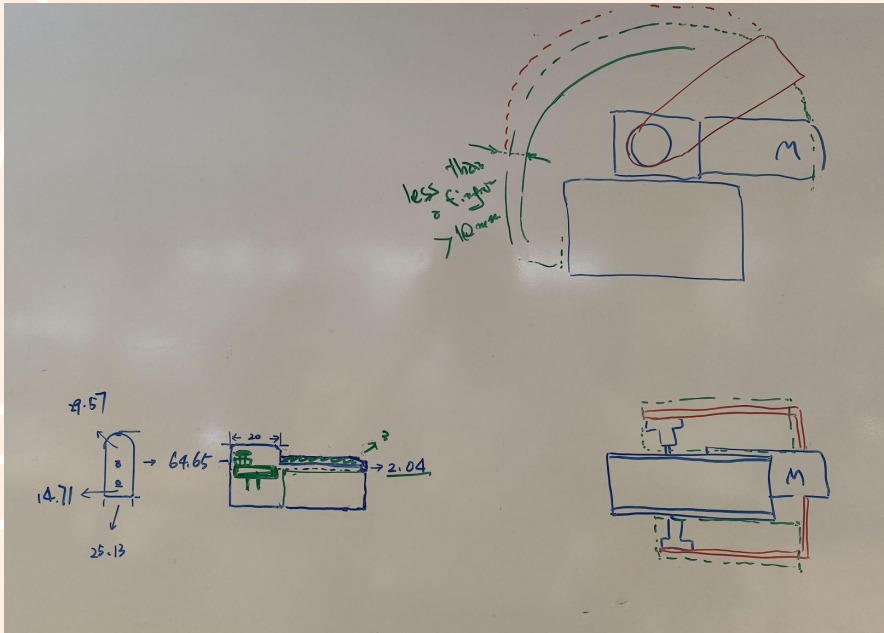
Wireless (almost)

Prevent problems from
circuit connections

Save much space



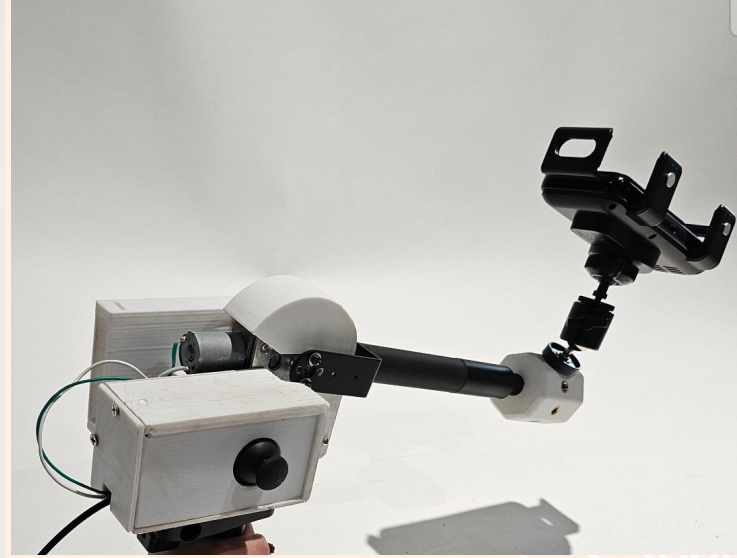
Motor cover



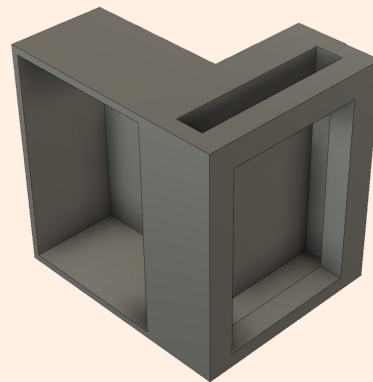
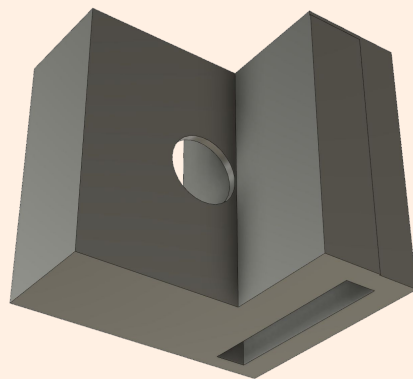
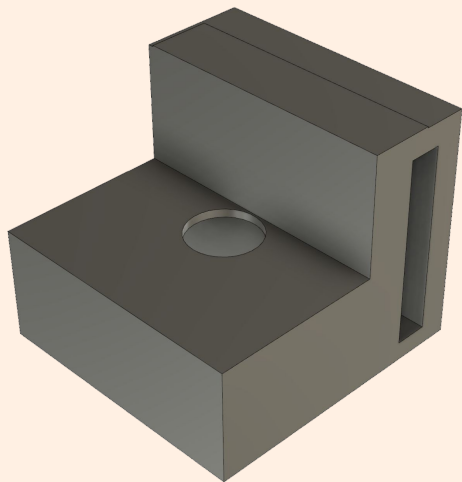
Marissa

- Worked on how to connect adaptors to base
- Worked on the installation for the shell case
- Material Purchase for installation design
- Connected with Emma and Michener

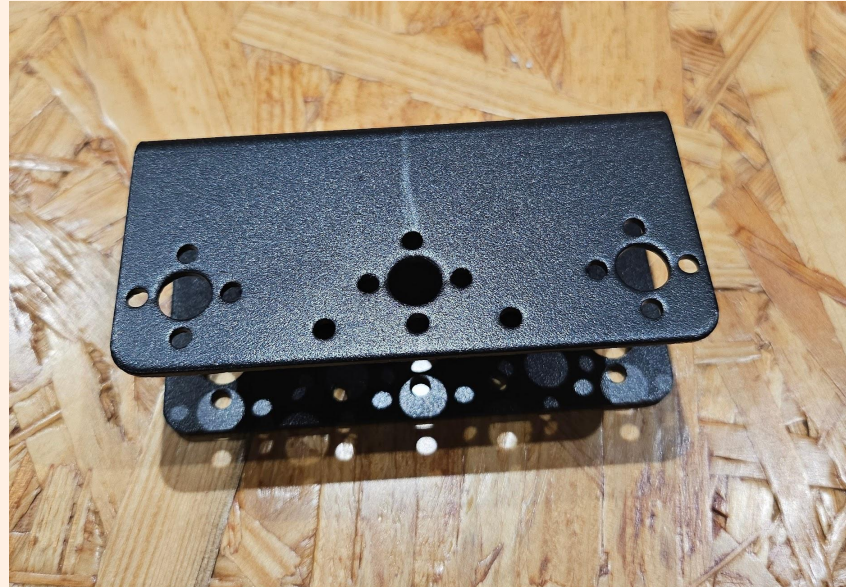
How To Connect Adapters To The Base?



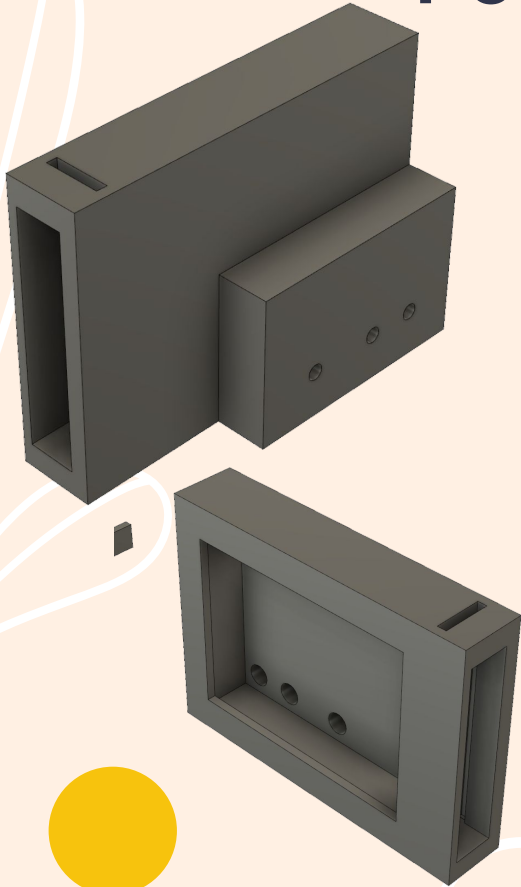
Rough Draft



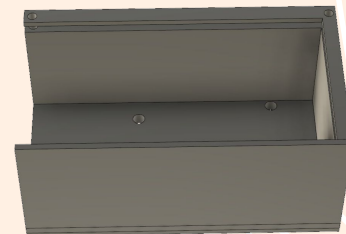
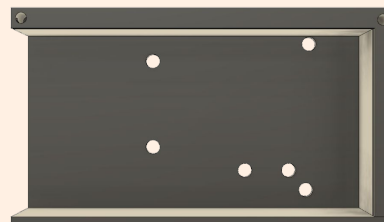
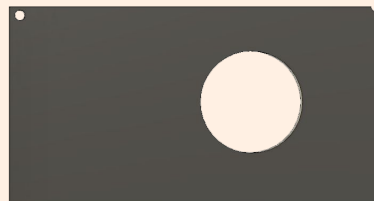
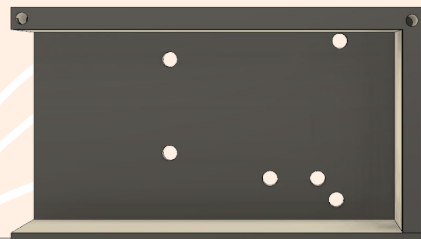
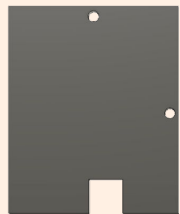
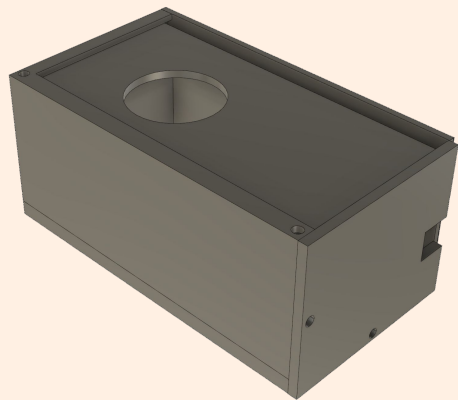
New Solution



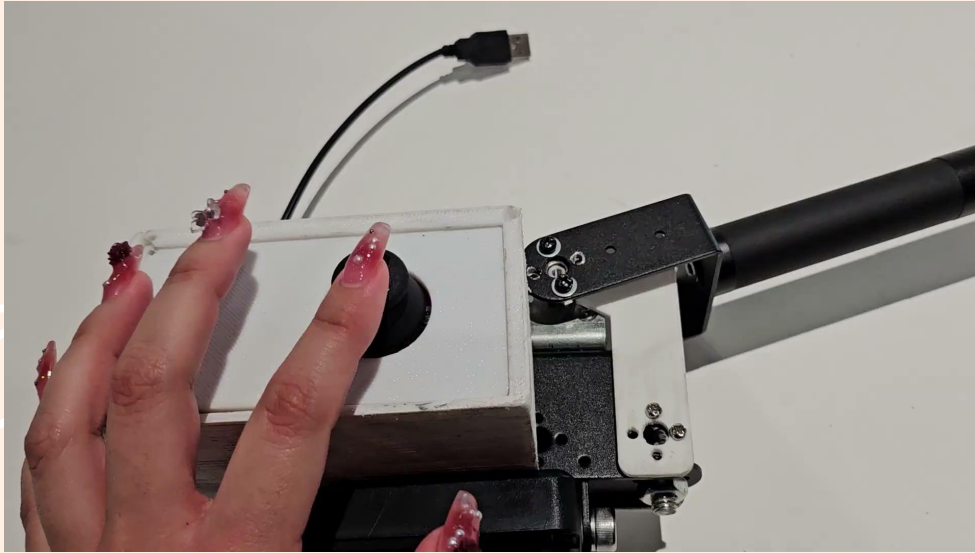
Portable Battery Holder



Joystick Holder



Joystick Holder Part 2



All Together



Improvements?

The background is a light orange color. It features several decorative elements: white outlines of plants with long, thin leaves, yellow circles of various sizes, and white circles of various sizes. The plants are located on the left and right sides of the page. The yellow circles are scattered throughout the page. The white circles are also scattered throughout the page.

Contents of this template

You can delete this slide when you're done editing the presentation

Fonts	To view this template correctly in PowerPoint, download and install the fonts we used
Used and alternative resources	An assortment of graphic resources that are suitable for use in this presentation
Thanks slide	You must keep it so that proper credits for our design are given
Colors	All the colors used in this presentation
Icons and infographic resources	These can be used in the template, and their size and color can be edited
Editable presentation theme	You can edit the master slides easily. For more info, click here

For more info:
[SLIDESGO](#) | [BLOG](#) | [FAQs](#)

You can visit our sister projects:
[FREEPIK](#) | [FLATICON](#) | [STORYSET](#) | [WEPIK](#) | [VIDEVO](#)

Table of contents

01

Section

02

Section

03

Section

04

Section

05

Section

06

Section

Mission statement

Do you know what helps you make your point clear?
Lists like this one:

- They're simple
- You can organize your ideas clearly
- You'll never forget to buy milk!

And the most important thing: the audience won't miss the point of your presentation



01

Overview

You can enter a subtitle here if you need it



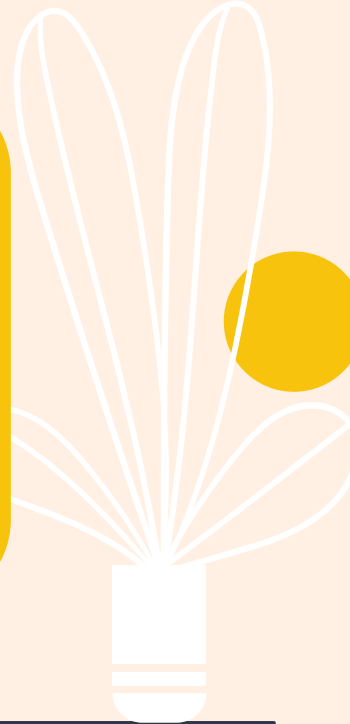
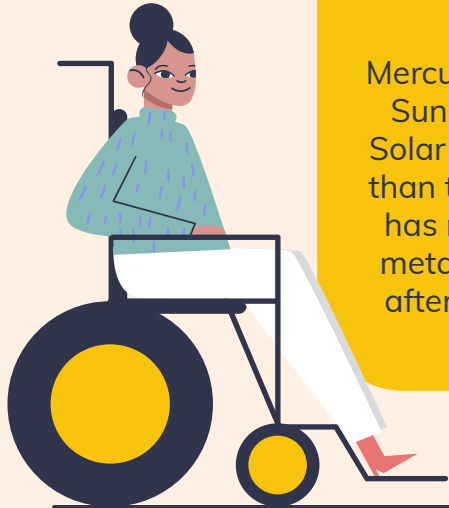
Problem vs. solution

Problem

Mercury is the closest planet to the Sun and the smallest one in the Solar System—it's only a bit larger than the Moon. This planet's name has nothing to do with the liquid metal, since Mercury was named after the Roman messenger god

Solution

Venus has a beautiful name and is the second planet from the Sun. It's terribly hot—even hotter than Mercury—and its atmosphere is extremely poisonous. It's the second-brightest natural object in the night sky after the Moon



Competitors

Jupiter

Jupiter is a gas giant and the biggest planet in the Solar System. It's the fourth-brightest object in the night sky and was named after the Roman god of the skies

Venus

Venus has a beautiful name and is the second planet from the Sun. It's terribly hot and its atmosphere is poisonous. It was named after a Greek goddess

Saturn

Saturn is a gas giant and has several rings and it's composed mostly of hydrogen and helium. It was named after the Roman god of wealth and agriculture

Our partners

Venus

Venus has a beautiful name and is the second planet from the Sun. It's terribly hot and its atmosphere is extremely poisonous

Mars

Despite being red, Mars is actually a cold place. It's full of iron oxide dust, which gives the planet its reddish cast, and it's made of basalt

Jupiter

Jupiter is a gas giant and the biggest planet in the Solar System. It's the fourth-brightest object in the night sky and was named after a god

Saturn

Saturn is a gas giant and has several rings. It's composed mostly of hydrogen and helium. It's the sixth planet from the Sun

Our services

Earth

Earth is the third planet from the Sun and the only one that harbors life in the Solar System. We all live on this planet

Jupiter

Jupiter is a gas giant and the biggest planet in the Solar System. It's the fourth-brightest object in the night sky

Venus

Venus has a beautiful name and is the second planet from the Sun. It's terribly hot, even hotter than Mercury

Saturn

Saturn is a gas giant and has several rings. It's composed mostly of hydrogen and helium. It's the sixth planet from the Sun

Mars

Despite being red, Mars is actually a cold place. It's full of iron oxide dust, which gives the planet its reddish cast

Neptune

Neptune is the farthest planet from the Sun. It's also the fourth-largest planet by diameter in the Solar System

340,000

Big numbers catch your audience's attention



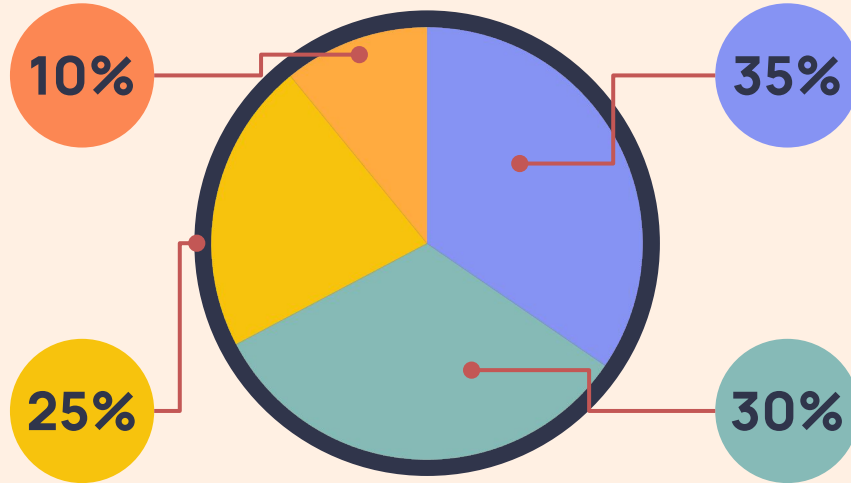
Market share

Earth

Earth is the third planet from the Sun

Mercury

Mercury is quite a small planet



Saturn

Saturn is a gas giant and has several rings

Mars

Despite being red, Mars is a cold place

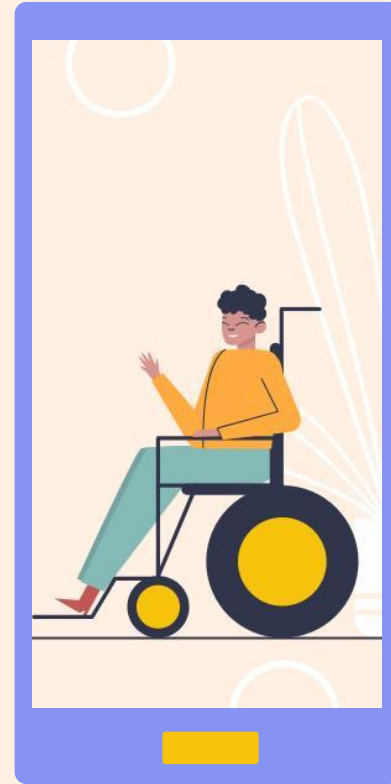
Follow the link in the graph to modify its data and then paste the new one here. **For more info, click here**

Table

	Team A	Team B	Team C	Team D	Team E	Team F
Mercury	XX	XX	XX	XX	XX	XX
Mars	XX	XX	XX	XX	XX	XX
Saturn	XX	XX	XX	XX	XX	XX
Venus	XX	XX	XX	XX	XX	XX
Jupiter	XX	XX	XX	XX	XX	XX
Earth	XX	XX	XX	XX	XX	XX
Moon	XX	XX	XX	XX	XX	XX

Mockup

You can replace the image on the screen with your own work. Just right-click on it and select “Replace image”



Timeline

Earth

Earth is the third planet from the Sun

1

Mercury

It's the closest planet to the Sun

3

2

Saturn

It's a gas giant and has several rings

4

Mars

Despite being red, Mars is a cold place

Canvas infographics

Key partners

Earth is the planet with life

Key activities

Despite being red, Mars is a cold place

Value propositions

Venus is the second planet from the Sun

Customer relationships

Mercury is the smallest planet of them all

Customer segments

Jupiter is an enormous planet

Key resources

Saturn is a planet with beautiful rings

Channels

Neptune is the farthest planet from the Sun

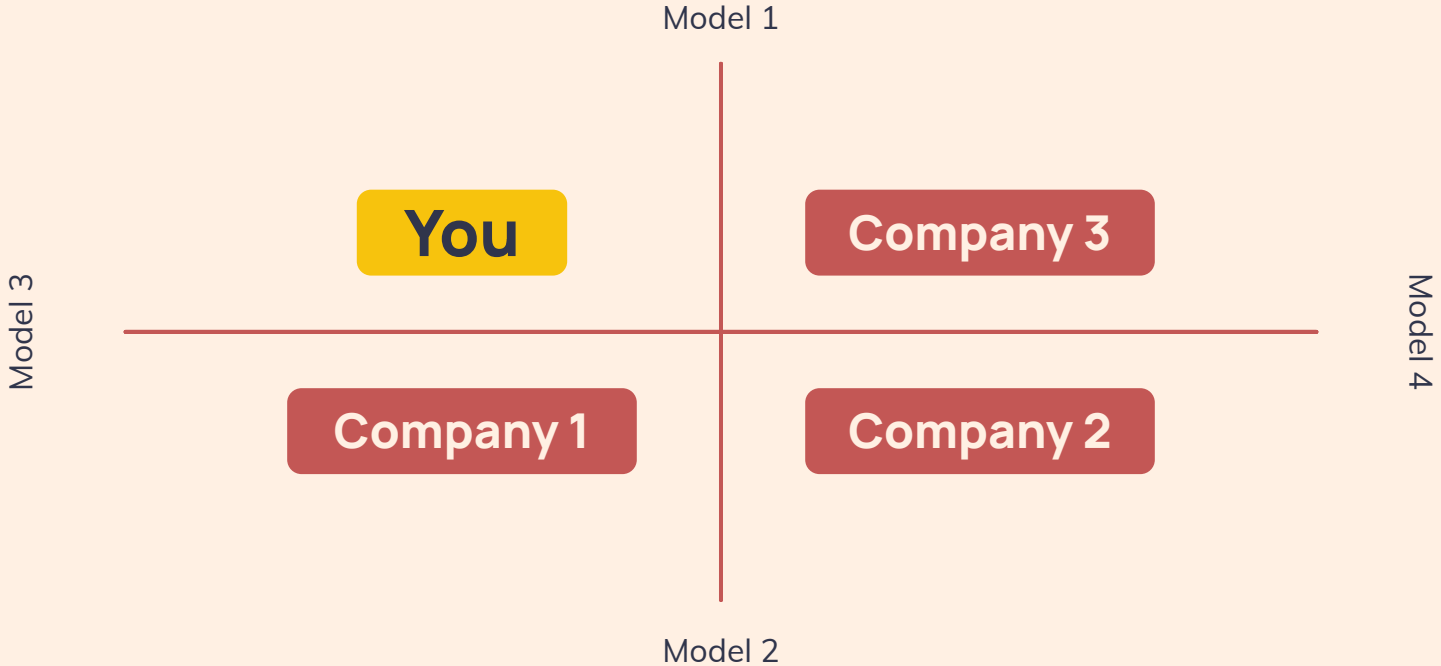
Cost structure

Jupiter was named after a Roman god

Revenue streams

Earth is also known as the Blue Planet

Matrix infographics



Target infographics

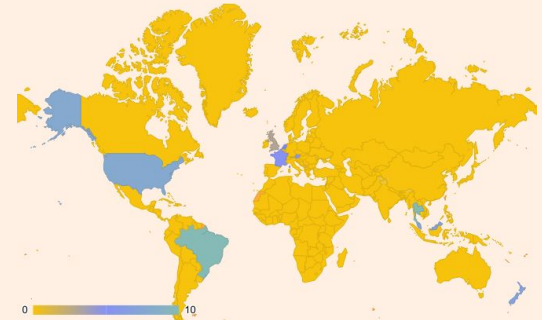
Demographics

Age	25-50 years old
Gender	Male and female
Occupation	Employees and students
Family situation	Single and married people
Income	\$50,000/year

Psychographics

- Neptune is the fourth-brightest object in the night sky
- Venus has a beautiful name and is the second planet from the Sun
- Despite being red, Mars is actually a cold place. It's full of iron oxide dust

Locations



Region

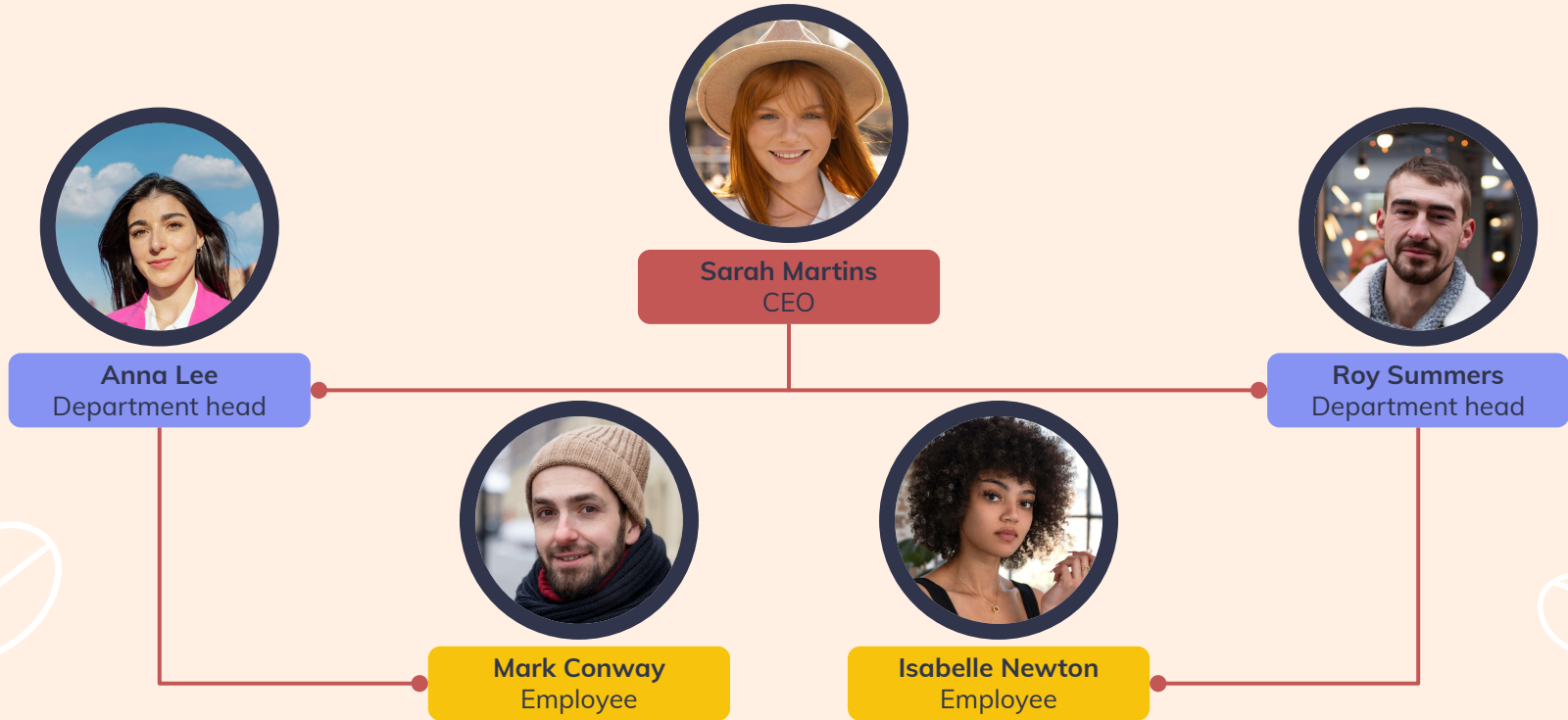
Europe, Americas

Area

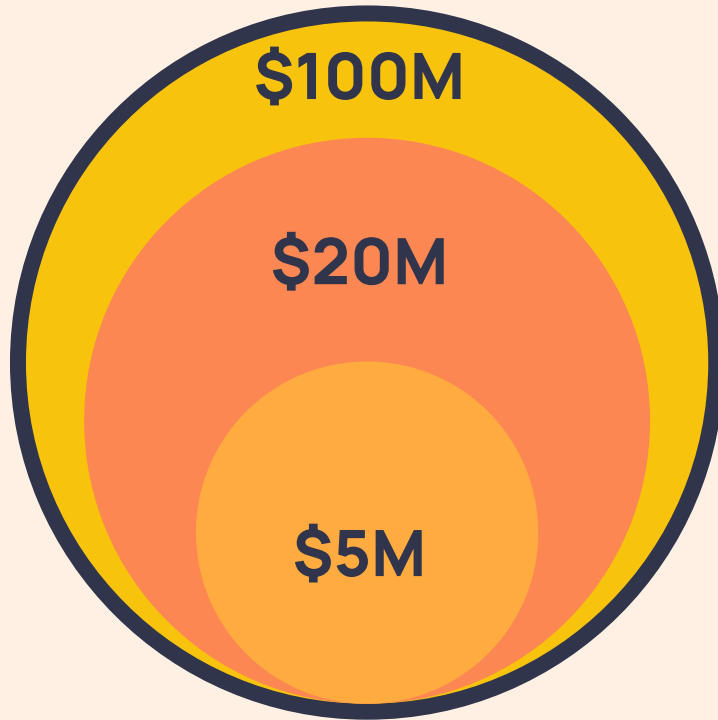
Urban

Follow the link in the map to modify its data and then paste the new one here. **For more info, click here**

Organizational chart



Market size infographics



Jupiter

Jupiter is a gas giant and the biggest planet in the Solar System. It's the fourth-brightest object in the night sky

Mars

Despite being red, Mars is actually a cold place. It's full of iron oxide dust, which gives the planet its reddish cast

Saturn

Saturn is a gas giant and has several rings. It's composed mostly of hydrogen and helium. It was named after a Roman god

Thanks!



Do you have any questions?

youremail@freepik.com

+91 620 421 838

yourwebsite.com

CREDITS: This presentation template was created by **Slidesgo**, and includes icons by **Flaticon**, and infographics and images by **Freepik**

Please keep this slide for attribution



Alternative resources

Here's an assortment of alternative resources whose style fits that of this template:

Vectors

- Flat design international day of people with disability I
- Flat design international day of people with disability II



Resources

Did you like the resources on this template? Get them for free at our other websites:

Photos

- Beautiful woman with curly hair posing in a confident way
- Portrait of smiling man outdoors with beanie
- Man with a photo camera on his holidays
- Young woman posing in an outdoor field
- Medium shot smiley woman with hat

Vectors

- Flat design international day of people with disability I
- Flat design international day of people with disability II

Instructions for use

If you have a free account, in order to use this template, you must credit [Slidesgo](#) by keeping the [Thanks](#) slide. Please refer to the next slide to read the instructions for premium users.

As a Free user, you are allowed to:

- Modify this template.
- Use it for both personal and commercial projects.

You are not allowed to:

- Sublicense, sell or rent any of Slidesgo Content (or a modified version of Slidesgo Content).
- Distribute Slidesgo Content unless it has been expressly authorized by Slidesgo.
- Include Slidesgo Content in an online or offline database or file.
- Offer Slidesgo templates (or modified versions of Slidesgo templates) for download.
- Acquire the copyright of Slidesgo Content.

For more information about editing slides, please read our FAQs or visit our blog:

<https://slidesgo.com/faqs> and <https://slidesgo.com/slidesgo-school>

Instructions for use (premium users)

As a Premium user, you can use this template without attributing [Slidesgo](#) or keeping the [Thanks](#) slide.

You are allowed to:

- Modify this template.
- Use it for both personal and commercial purposes.
- Hide or delete the “Thanks” slide and the mention to Slidesgo in the credits.
- Share this template in an editable format with people who are not part of your team.

You are not allowed to:

- Sublicense, sell or rent this Slidesgo Template (or a modified version of this Slidesgo Template).
- Distribute this Slidesgo Template (or a modified version of this Slidesgo Template) or include it in a database or in any other product or service that offers downloadable images, icons or presentations that may be subject to distribution or resale.
- Use any of the elements that are part of this Slidesgo Template in an isolated and separated way from this Template.
- Register any of the elements that are part of this template as a trademark or logo, or register it as a work in an intellectual property registry or similar.

For more information about editing slides, please read our FAQs or visit our blog:

<https://slidesgo.com/faqs> and <https://slidesgo.com/slidesgo-school>

Fonts & colors used

This presentation has been made using the following fonts:

Manrope

(<https://fonts.google.com/specimen/Manrope>)

Muli

(<https://fonts.google.com/specimen/Muli>)

#8693f3

#fff0e3

#30354b

#c35755

#e87474

#f7c30d

#fc8753

#ffab40

#86bab7

#ffffff

Storyset

Create your Story with our illustrated concepts. Choose the style you like the most, edit its colors, pick the background and layers you want to show and bring them to life with the animator panel! It will boost your presentation. Check out [how it works](#).



Pana



Amico



Bro



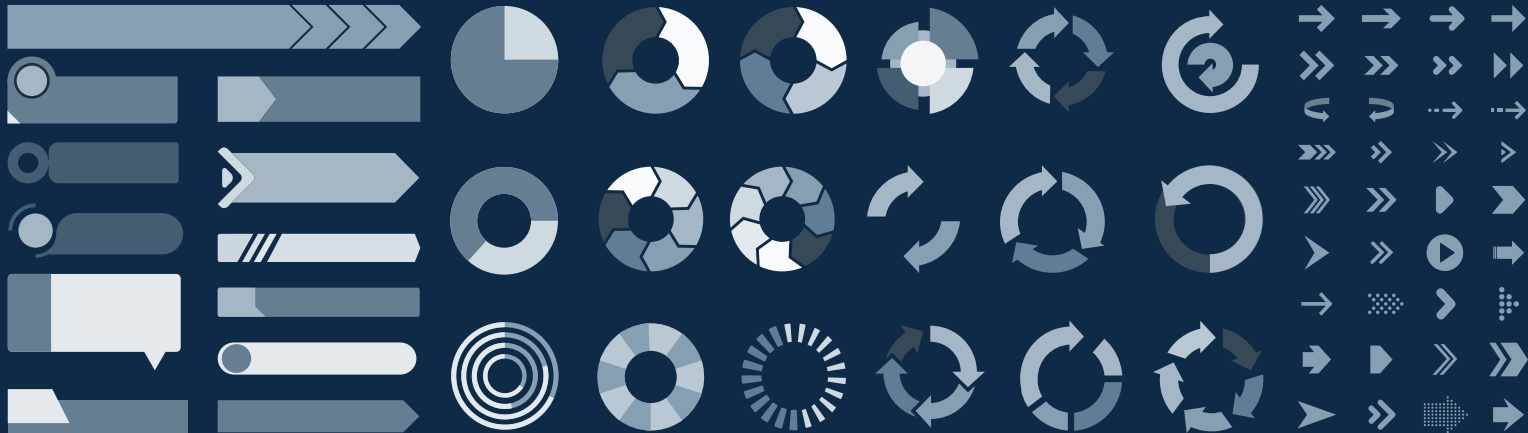
Rafiki



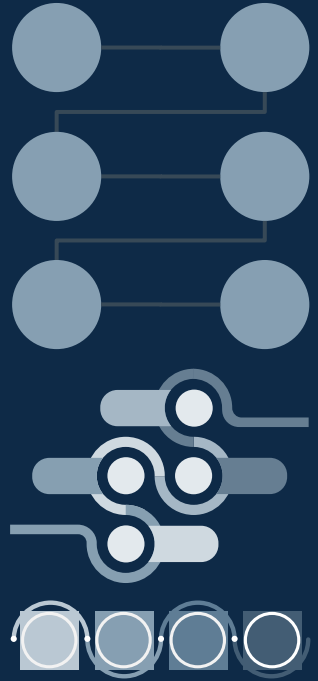
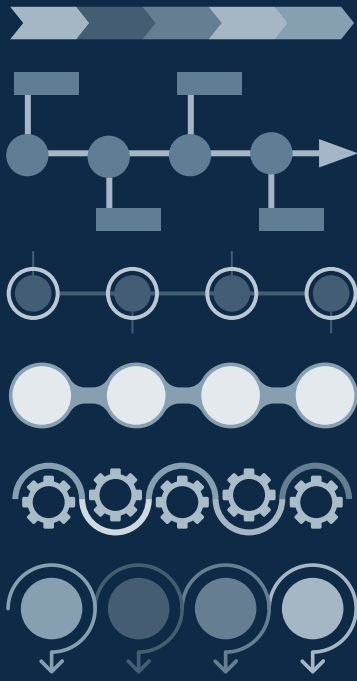
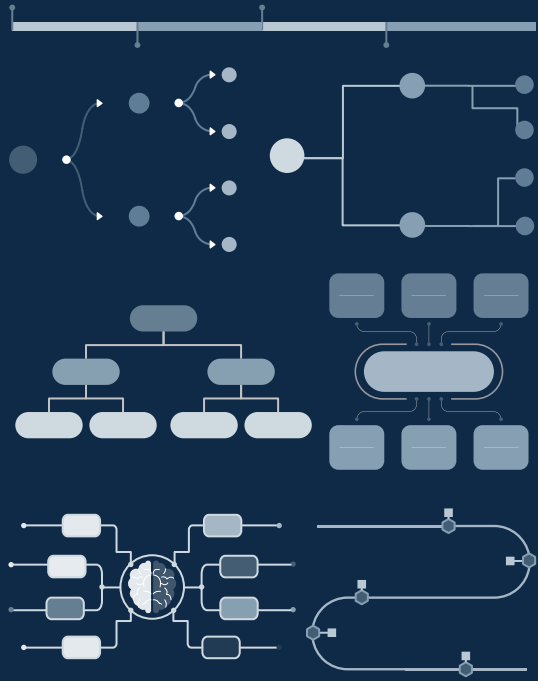
Cuate

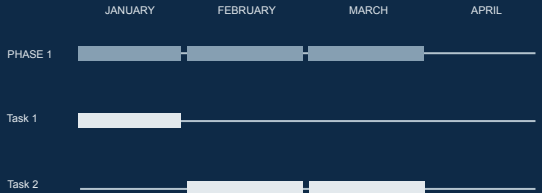
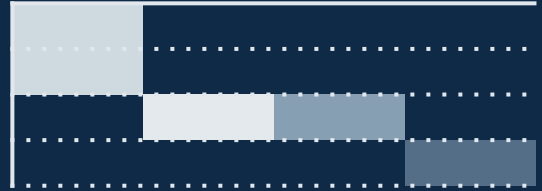
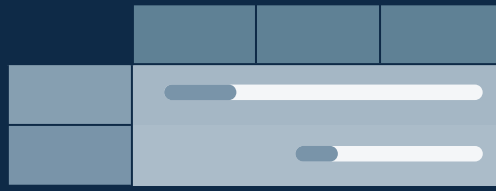
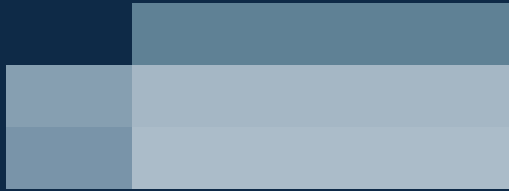
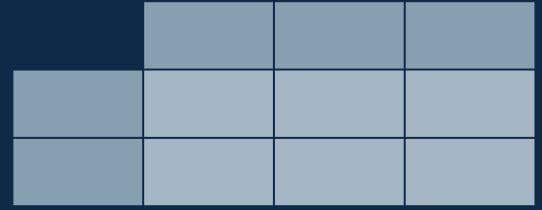
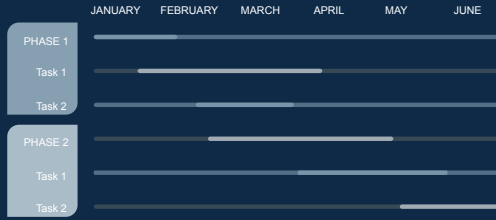
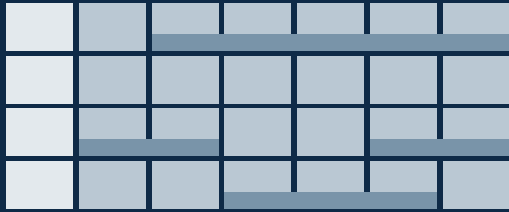
Use our editable graphic resources...

You can easily **resize** these resources without losing quality. To **change the color**, just ungroup the resource and click on the object you want to change. Then, click on the paint bucket and select the color you want. Group the resource again when you're done. You can also look for more **infographics** on [Slidesgo](#).

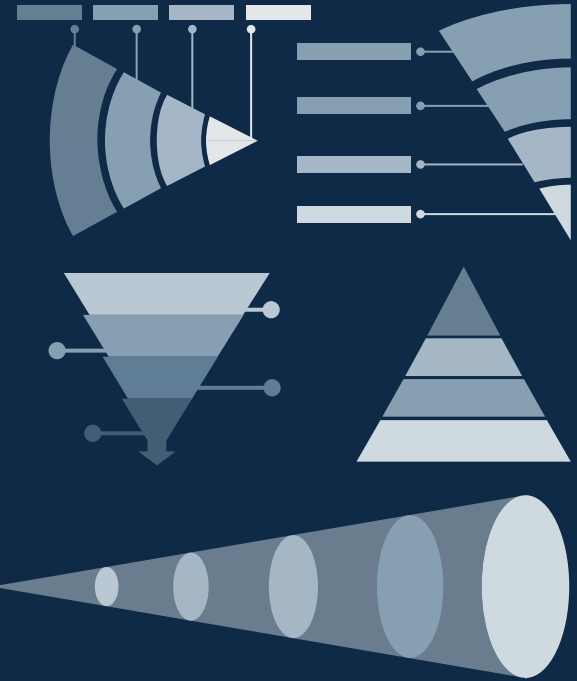
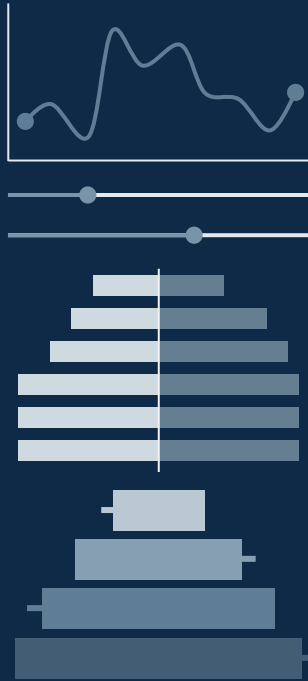
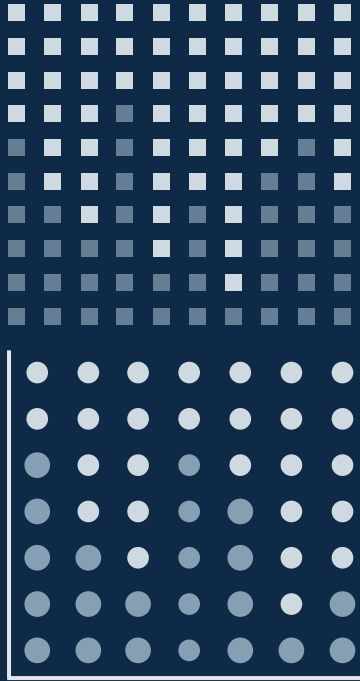












...and our sets of editable icons

You can **resize** these icons without losing quality.

You can **change the stroke and fill color**; just select the icon and click on the **paint bucket/pen**.

In Google Slides, you can also use **Flaticon's extension**, allowing you to customize and add even more icons.



Educational Icons



Medical Icons



Business Icons



Teamwork Icons



Creative Process Icons



Performing Arts Icons



Nature Icons



SEO & Marketing Icons



