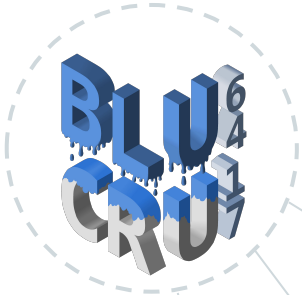
Blu Cru #6417

- Rockville, Maryland
- 9 members
- Explorer Post 1010
- 2012-Present



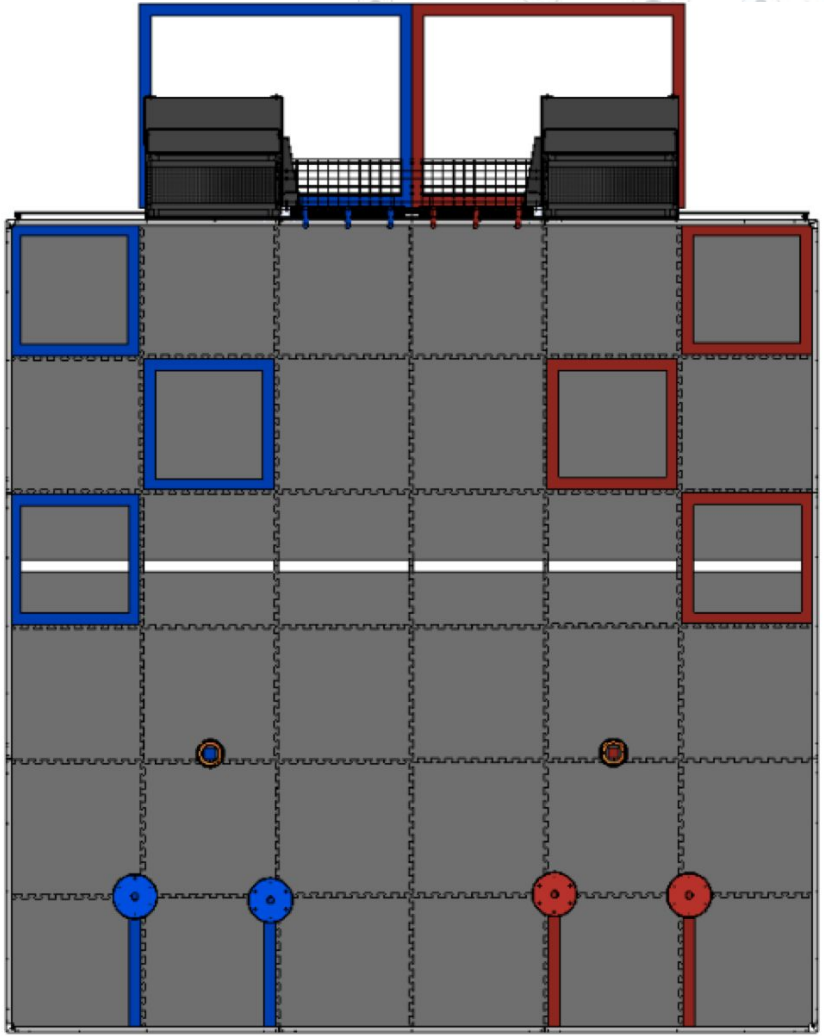
Innovation

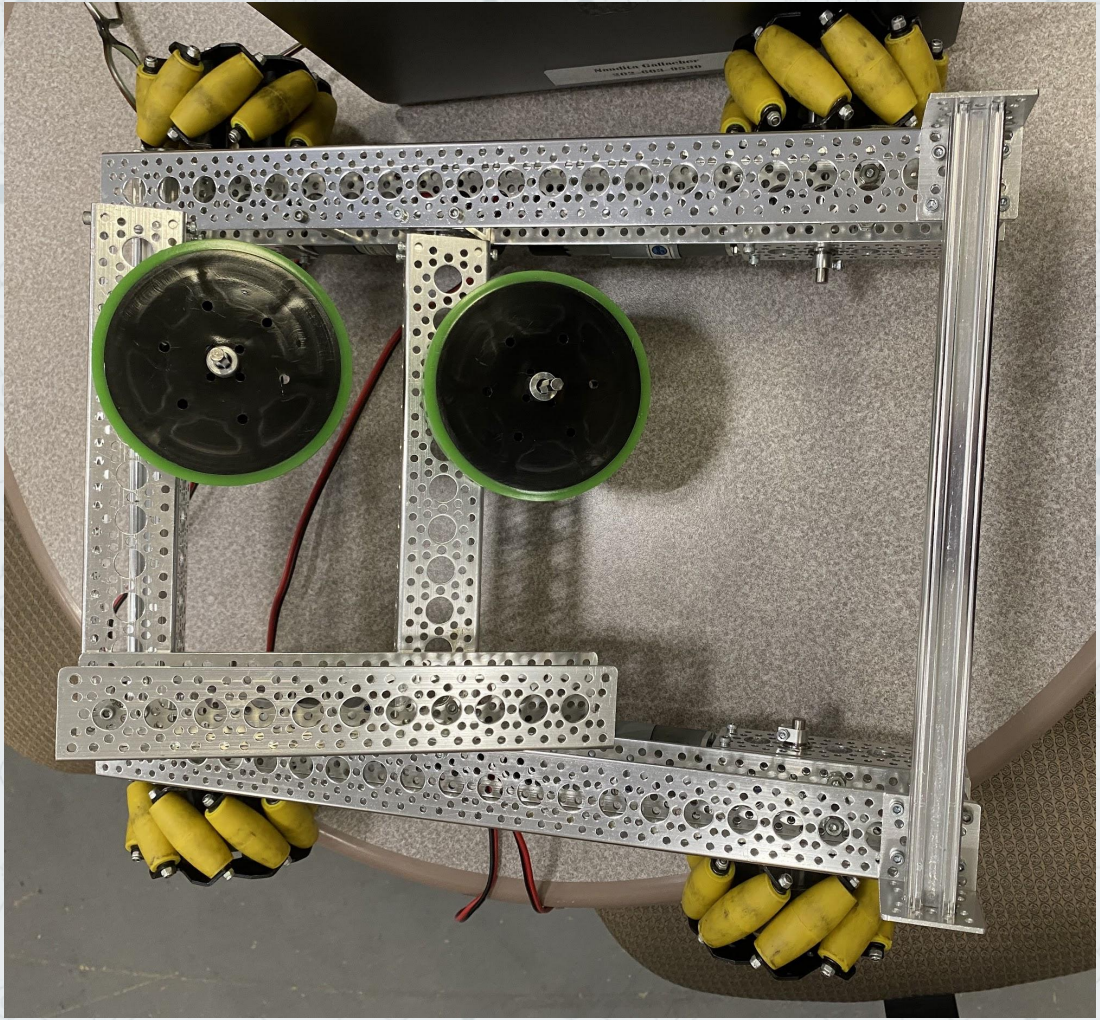


Blu Cru Core Value

Game Strategy

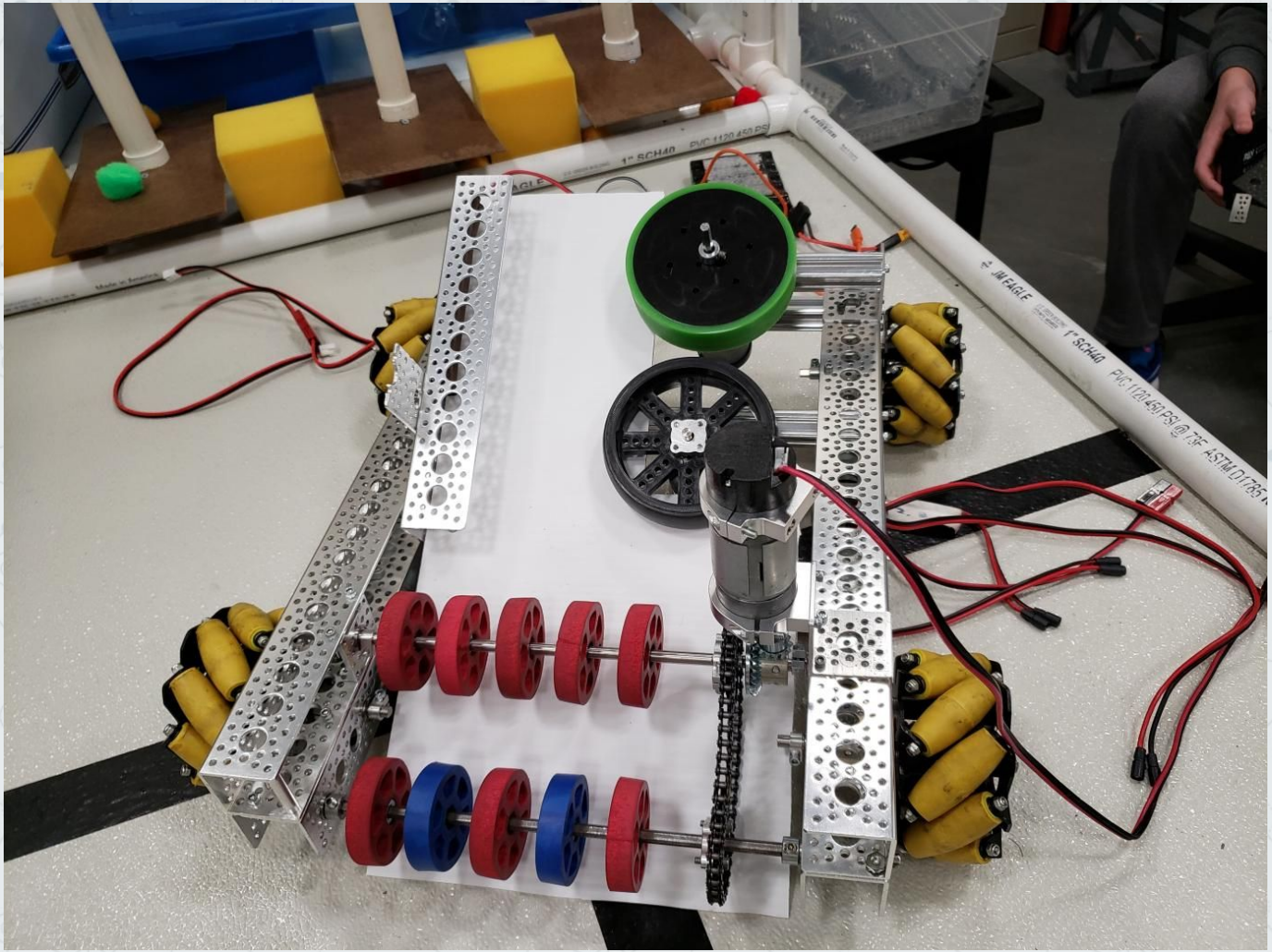
- Autonomous
- Driver-Controlled
- End-Game

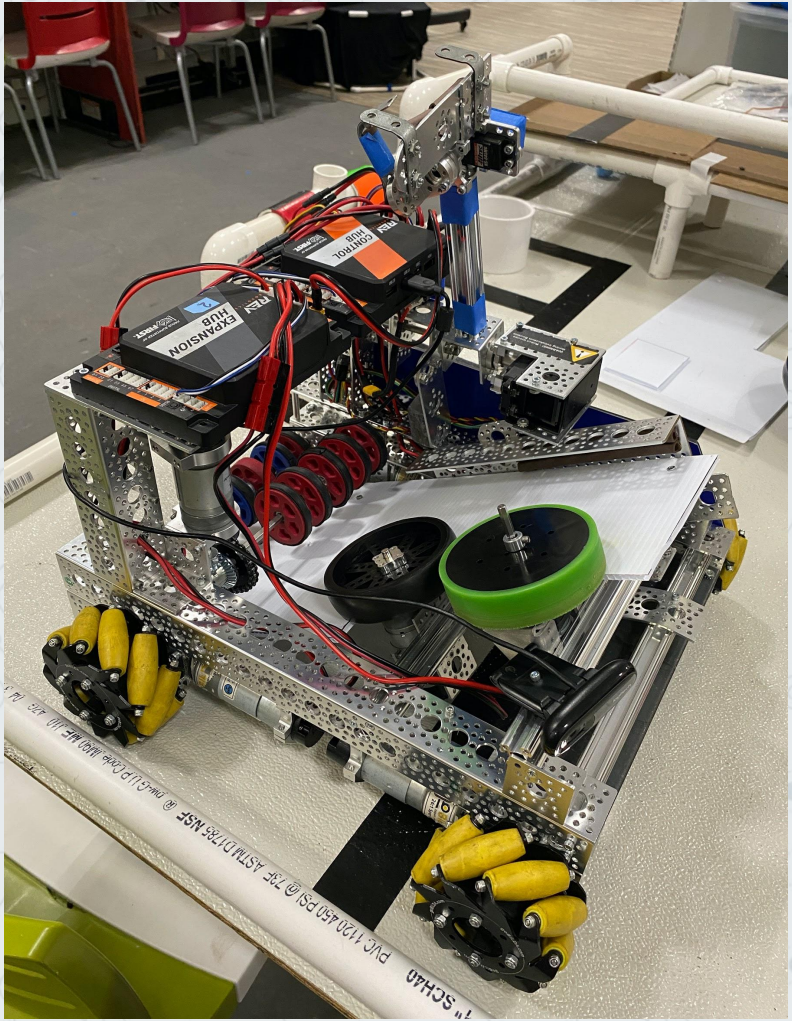


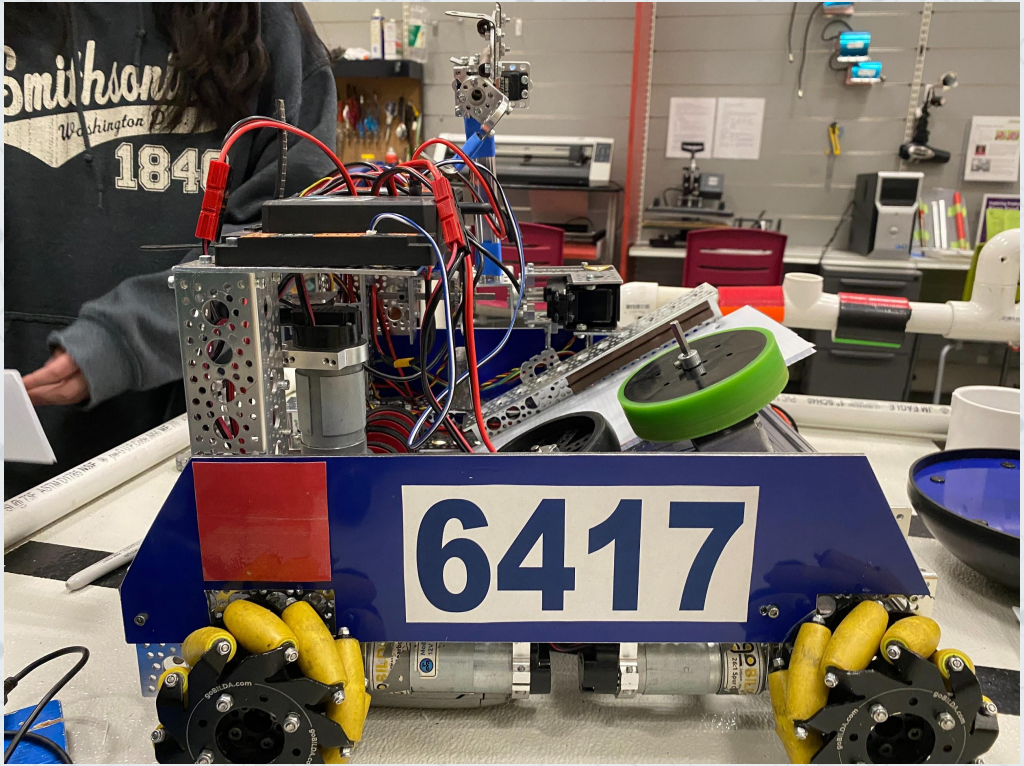


Chassis

In-Progress

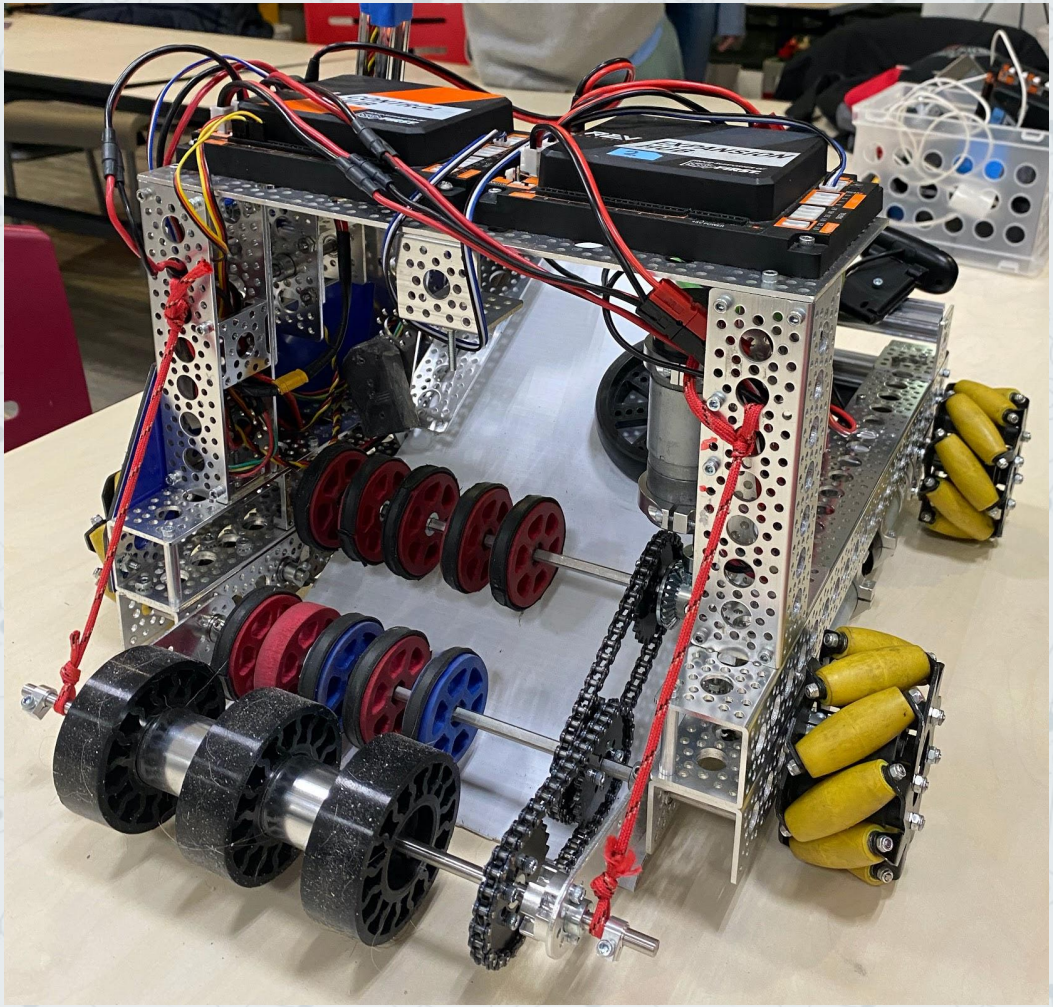


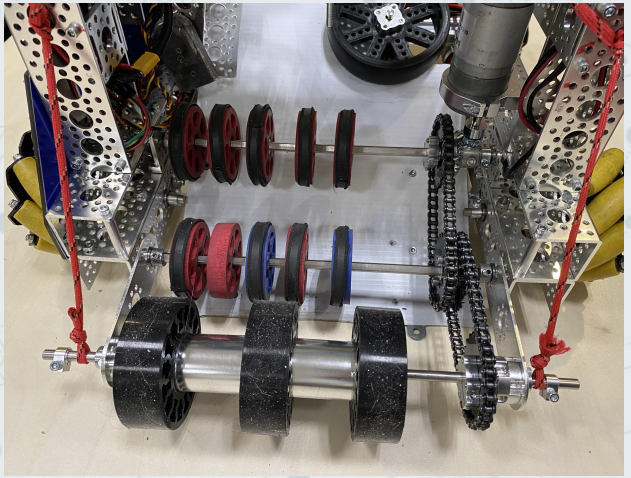


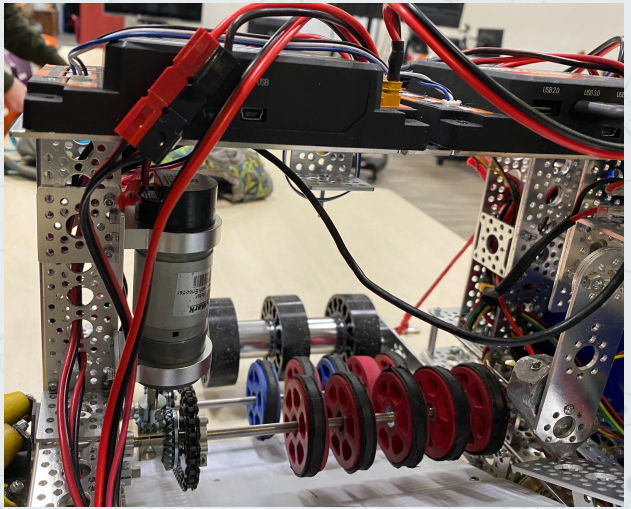


Robot

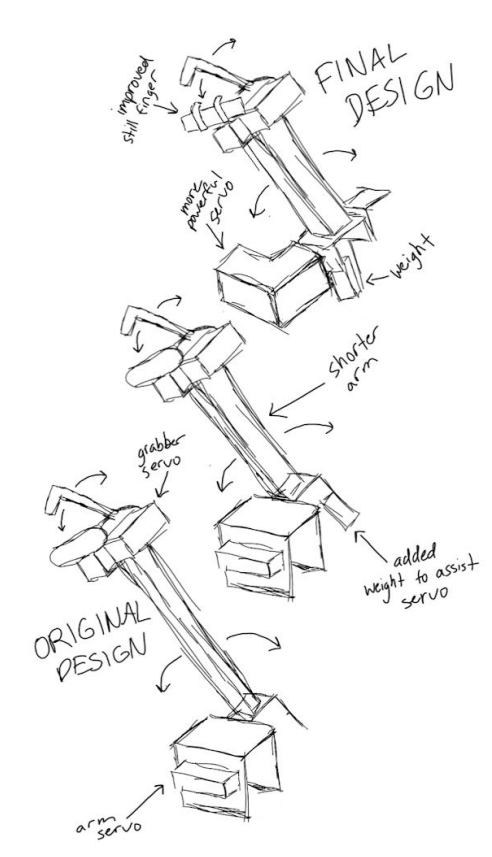
Intake

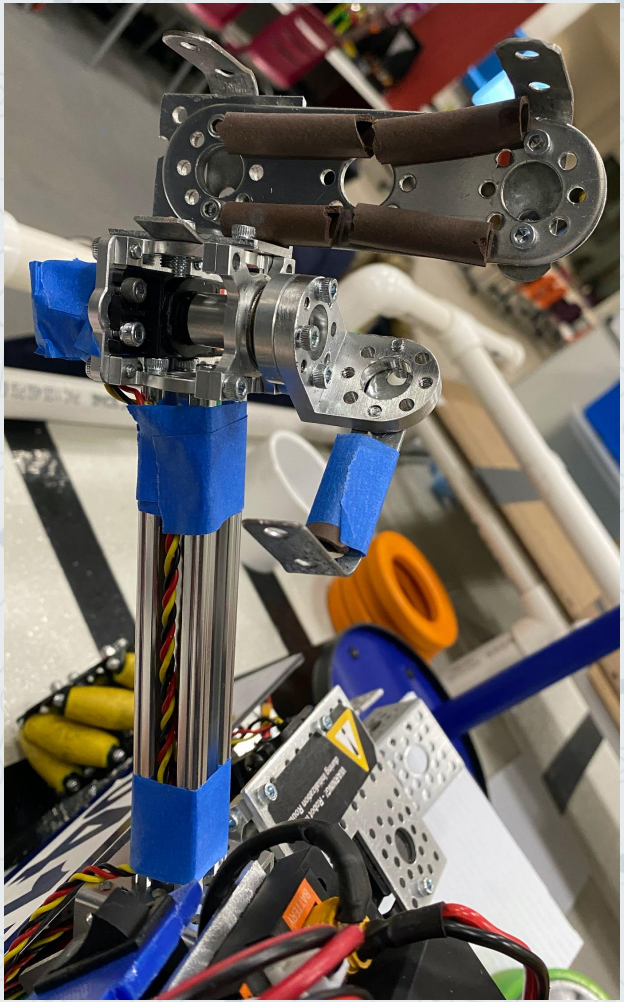


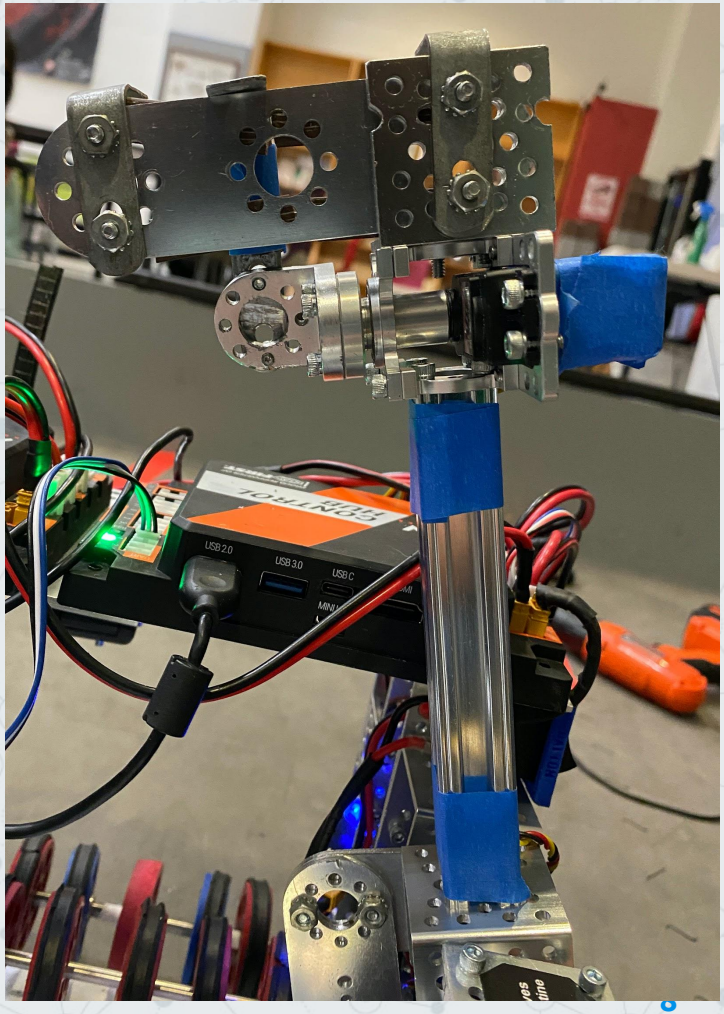




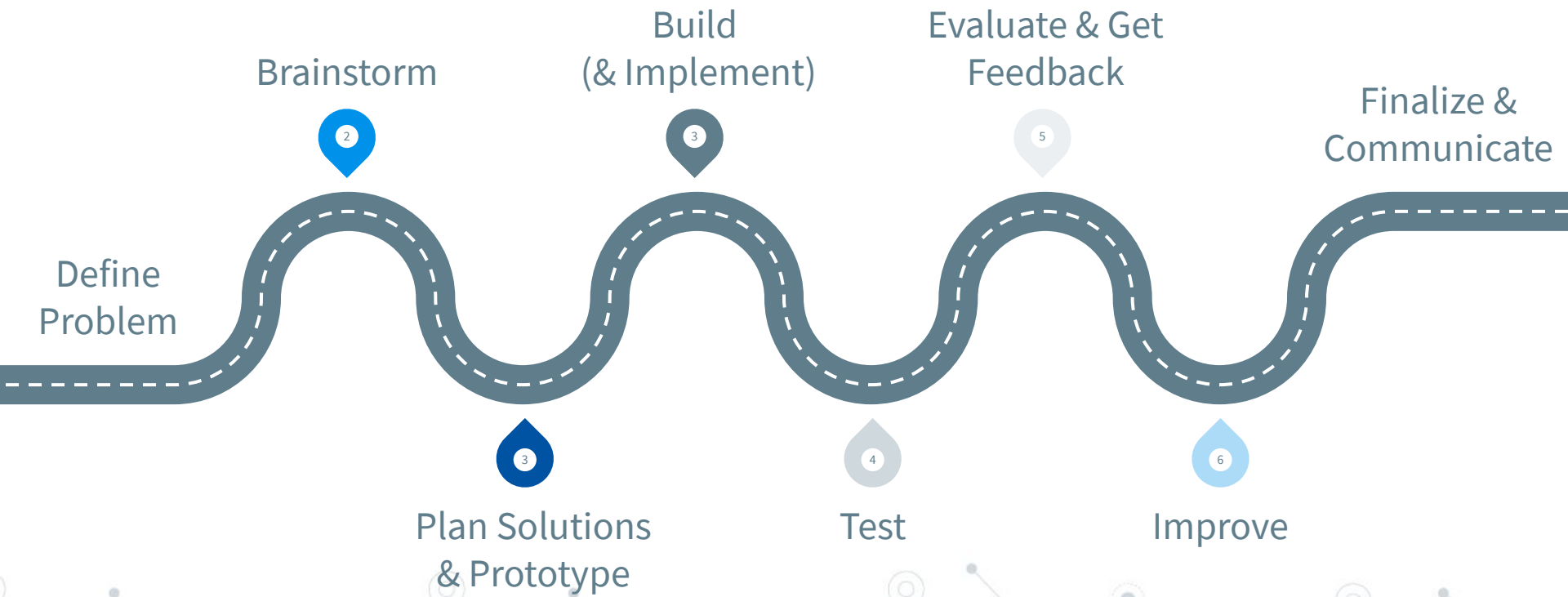
Arm


FINAL DESIGN
improved skill finger
more powerful servo
weight
shorter arm
grabber servo
added weight to assist servo
ORIGINAL DESIGN
arm servo

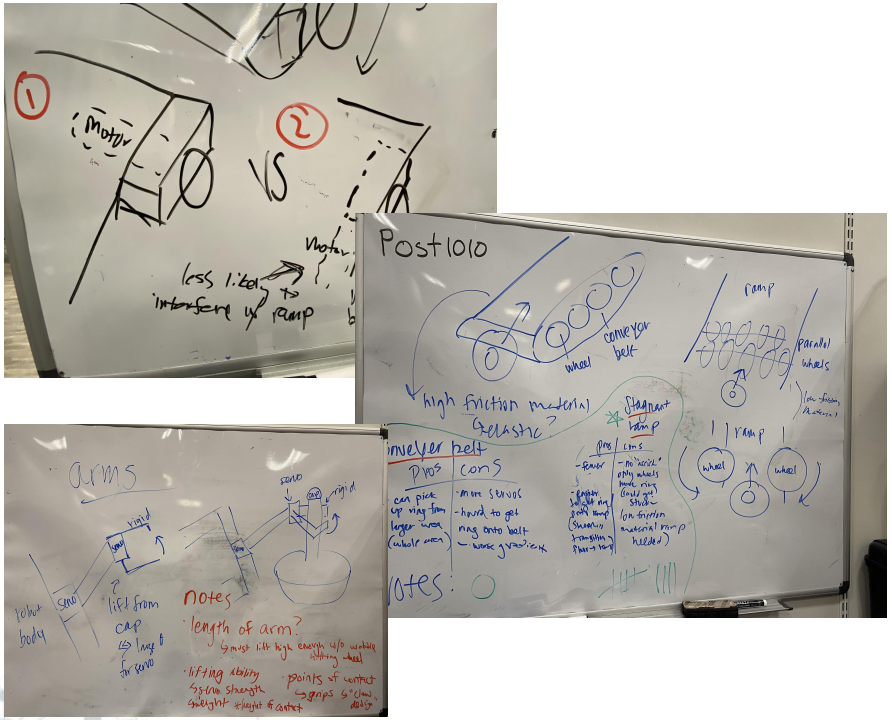



USB 2.0
USB 3.0
USB C

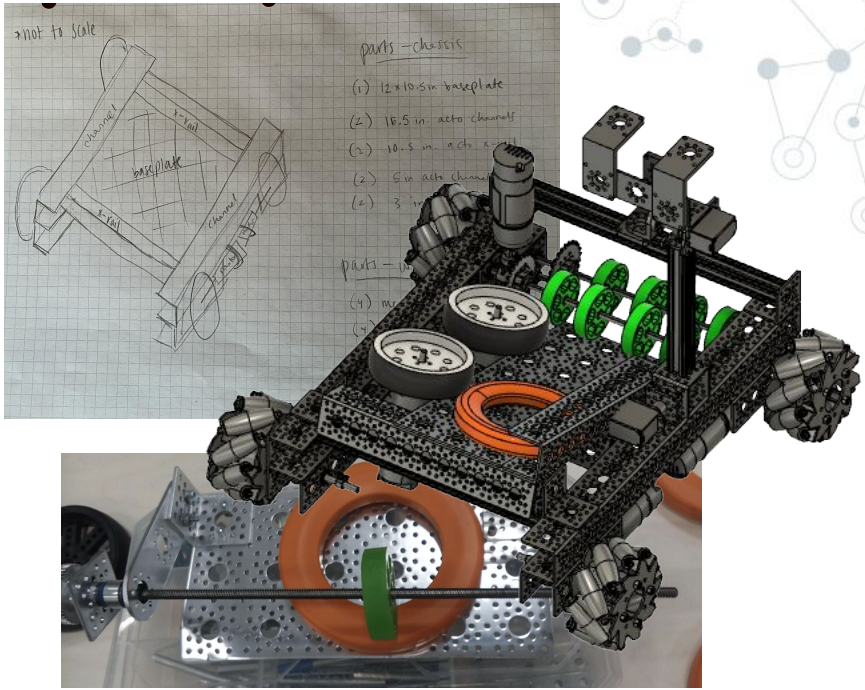
Engineering Design Process



Define Problem | Brainstorm

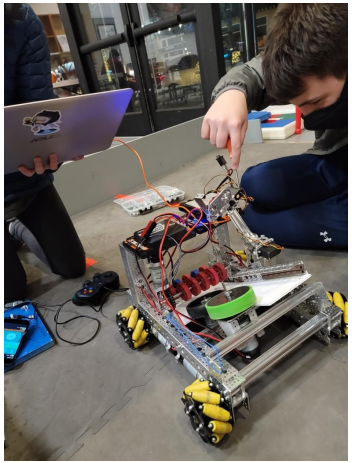


Plan Solutions & Prototype



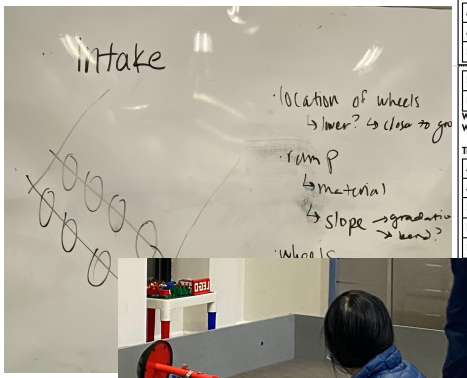
Engineering Design Process

Build (& Implement)





Test | Evaluate & Get Feedback



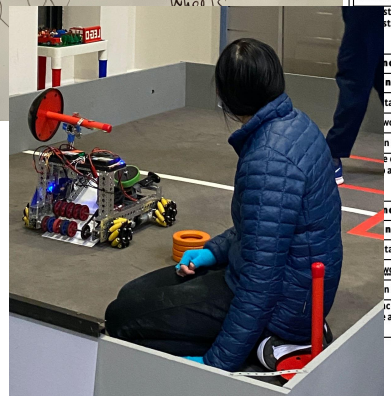


Figure 30.1

Trial 1

Autonomous	
Action	**Points (0 if unsuccessful)**
Shoot target	0
Move wobble goal to square	0
Park on white line	5

We are over-shooting the square and need to adjust for that.
We are currently shooting the ring left of all three targets.

Trial 2

Autonomous	
Action	**Points (0 if unsuccessful)**
Shoot target	0
Move wobble goal to square	0
Park on white line	5

still overshooting the square, and still aiming left of the targets. We will

nomous

n	Points (0 if unsuccessful)
target	0
wobble goal to square	15
n white line	5

e corrected the square issue, but we are currently shooting above the tar
adjust so that less power is used.

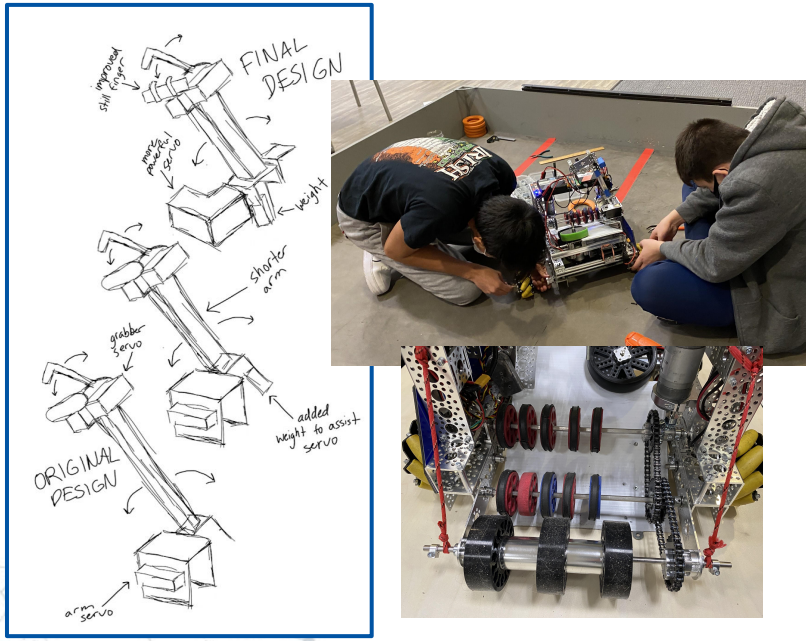
nomous

n	Points (0 if unsuccessful)
target	15
wobble goal to square	15
n white line	5

ched two rings, and managed to shoot the middle target down on the se
are looking into fixing the trajectory of the first shot.

Engineering Design Process

Improve



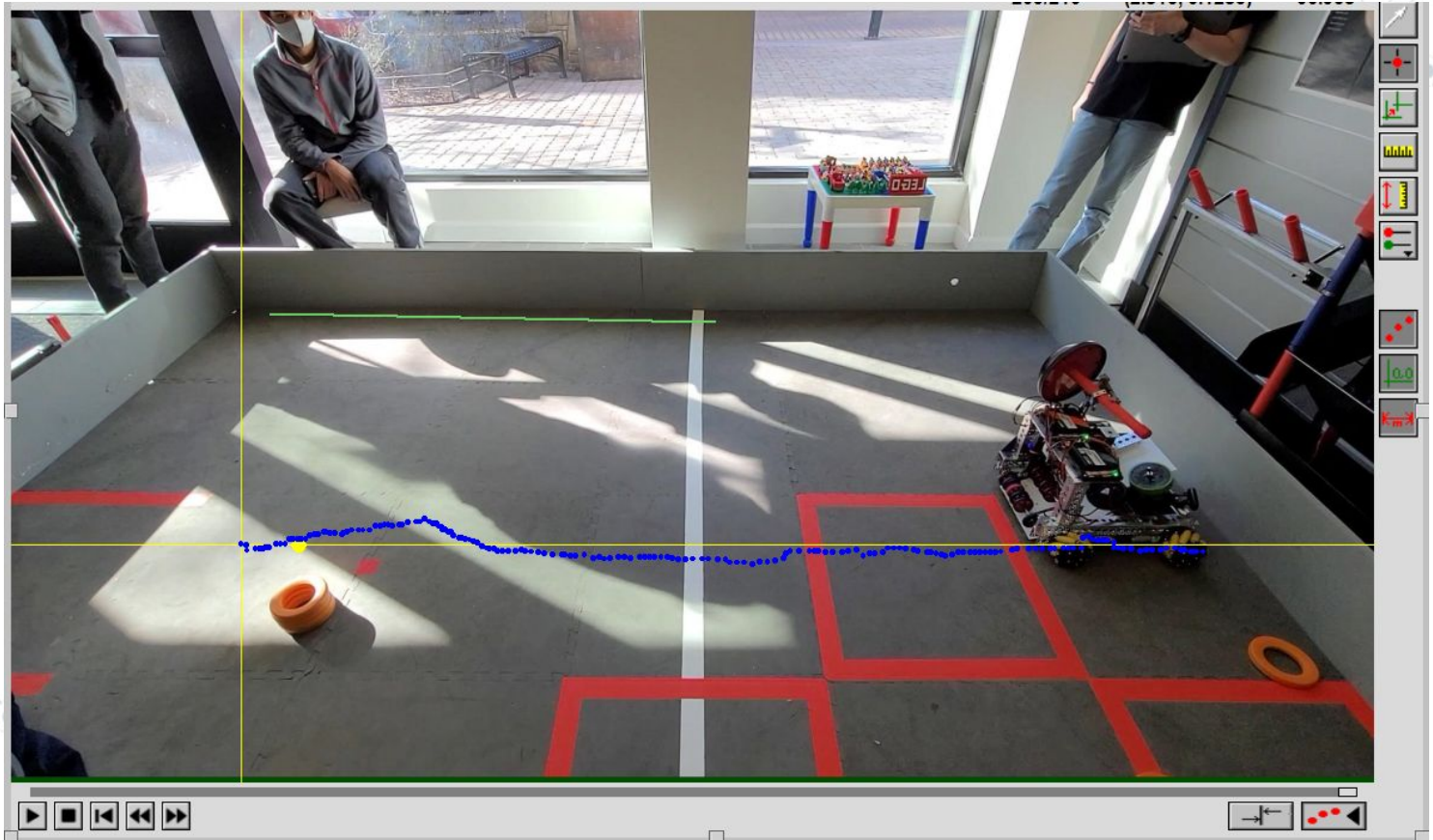
Finalize & Communicate



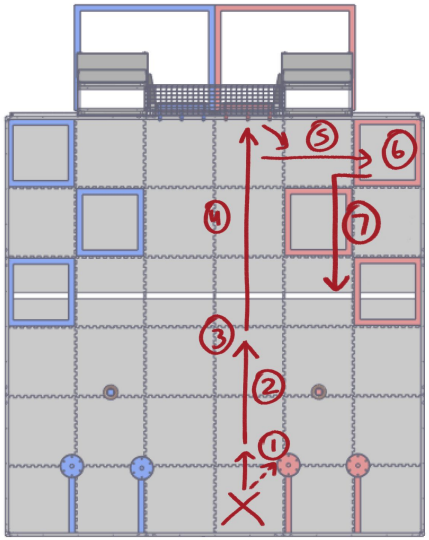
Projectile Motion Calculations



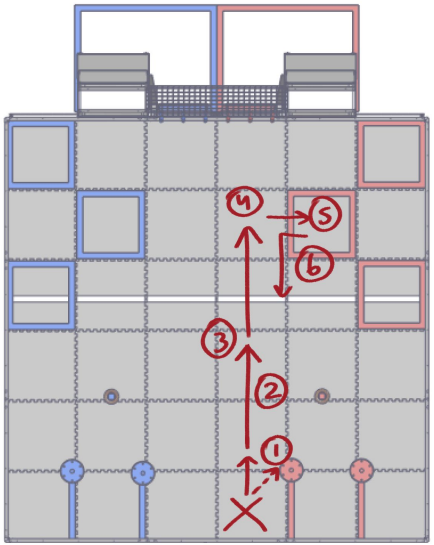
Velocity Calculations



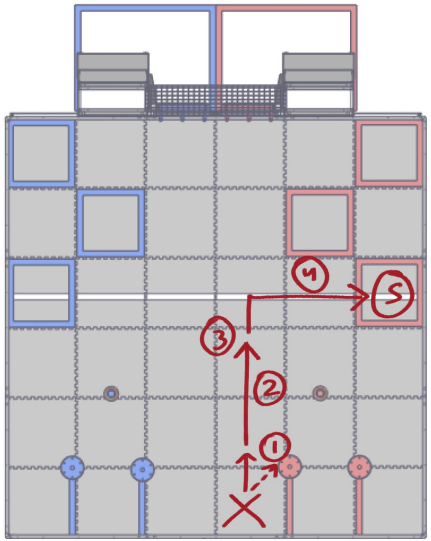
Autonomous Maps



4 rings



1 ring



0 rings

Image Recognition





vuforia™

Navigation

- Sensors used to navigate field during Autonomous:
- **Encoders:** drive and strafe to specific values
- **Inertial Measurement Unit:**
  - Internal gyroscope built into Control Hub
  - Used to rotate specific angles

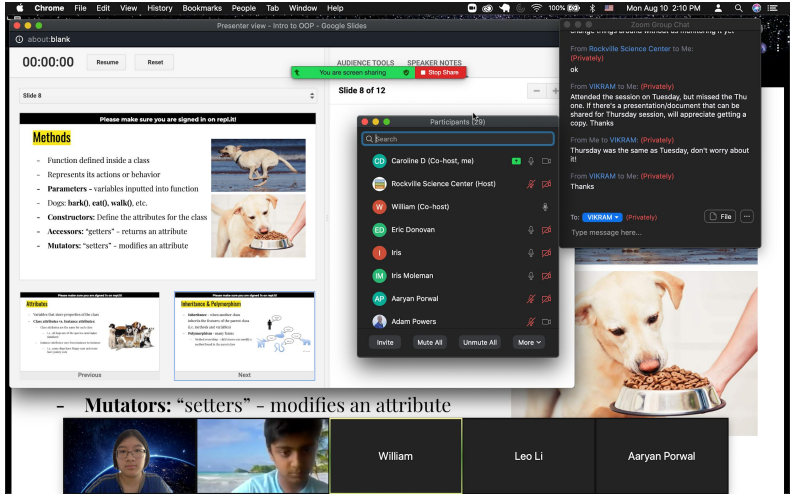
Community & Team Building

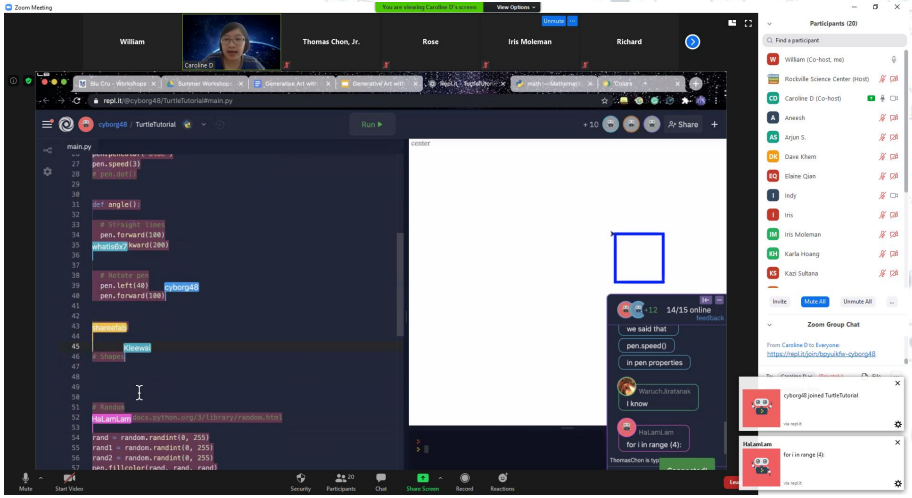


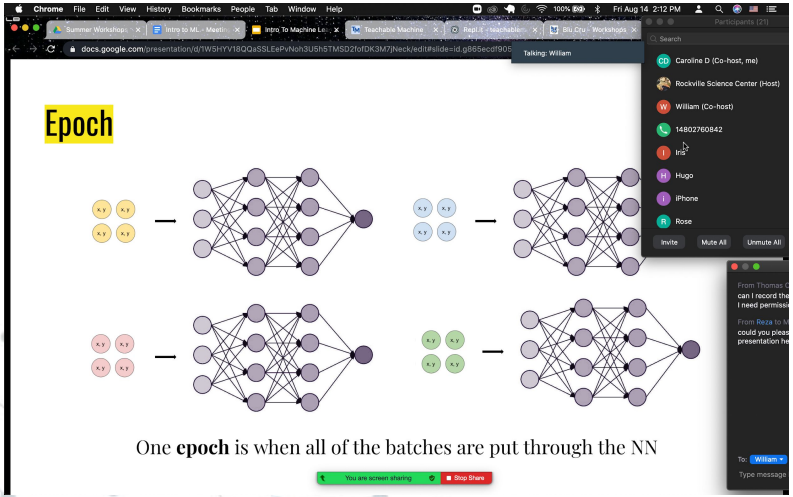
Blu Cru Core Values

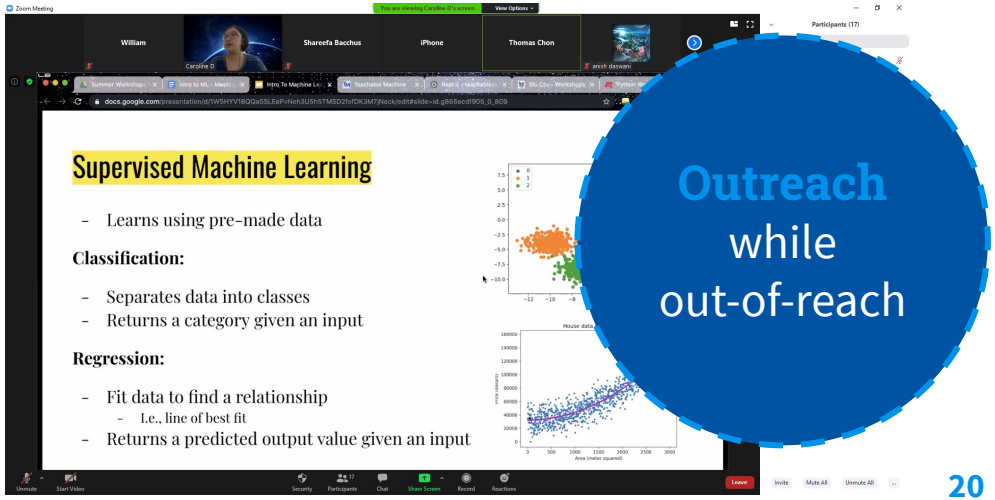
*Because someone has to **inspire the next generation** of engineers.*

— Bob, our mentor, when asked *why outreach?*


Methods
- Function defined inside a class
- Represents its actions or behavior
- Parameters - variables inputted into function
- Dogs: bark(), eat(), walk(), etc.
- Constructors: Define the attributes for the class
- Accessors: "getters" - returns an attribute
- Mutators: "setters" - modifies an attribute
- Mutators: "setters" - modifies an attribute
William
Leo Li
Aaryan Porwal

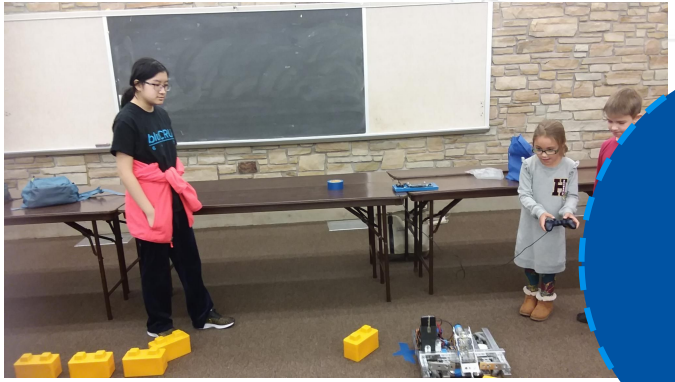

William
Thomas Chon, Jr.
Rose
Iris Moleman
Richard


Epoch
One epoch is when all of the batches are put through the NN


Supervised Machine Learning
- Learns using pre-made data
Classification:
- Separates data into classes
- Returns a category given an input
Regression:
- Fit data to find a relationship
- I.e., line of best fit
- Returns a predicted output value given an input
Outreach
while
out-of-reach



FLL judging



Outreach with returning team members



Local STEM events





School STEM nights

Storefront Engagement



robot field

science experiment displays

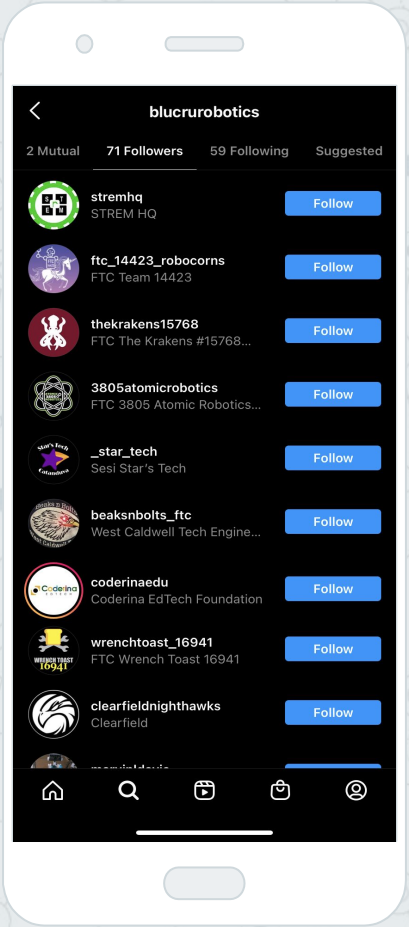
informative TV presentation



LEGO display at child eye-level

+ 71 Instagram followers

+ Blu Cru Twitter Account



Team Continuity



Finances

Deliberate and plan new part purchases

Recycle parts whenever possible

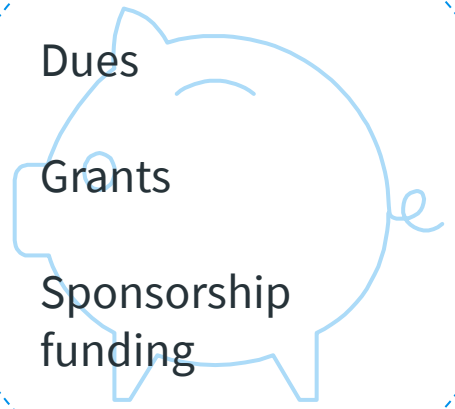
Delay sponsor recruitment and in-person fundraising to post-pandemic

Volunteer at sponsor events to show appreciation

Dues

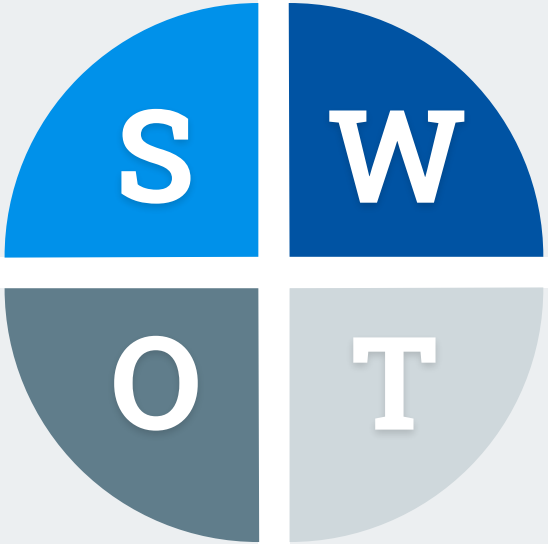
Grants

Sponsorship funding



After here its stuff we can use for pit

SWOT Analysis



STRENGTHS

Tight-knit Cru; diverse, motivated, work well together.

Majority are experienced members.

Access to sponsor's STEM resources and venue.

WEAKNESSES

Historical time management issue.

Fewer members than in years past—less collaboration, increased workload.

High foot traffic outside storefront

Online outreach—remote workshop-style outreach and expand its social media presence.

Necessity for detailed notebook.

OPPORTUNITIES

COVID-19 illness & restrictions.

Difficulty securing sponsorships

4 (almost half) team will graduate—threat to next year's Cru experience-level.

THREATS

final robot



designing

improving

planning

CADing

evaluating

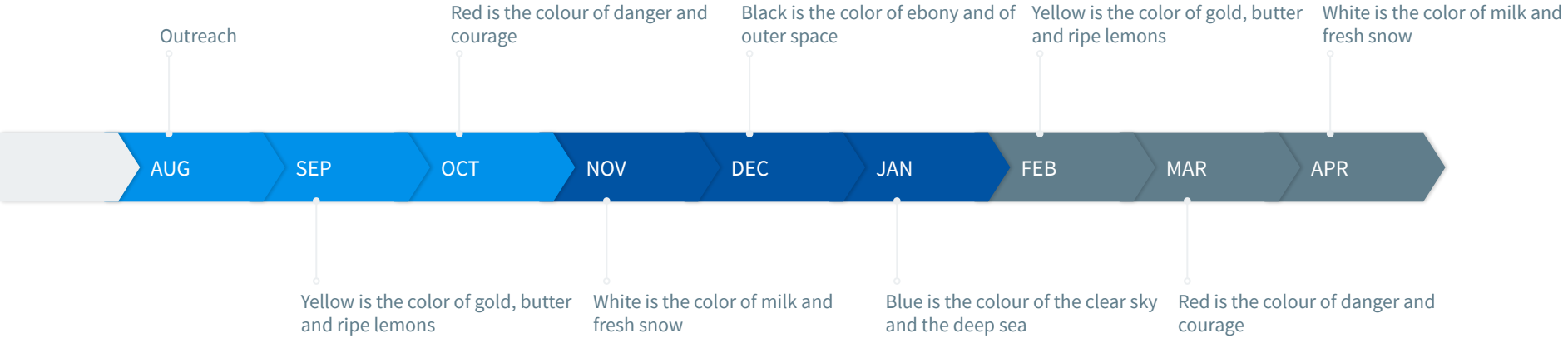
brainstorming

testing

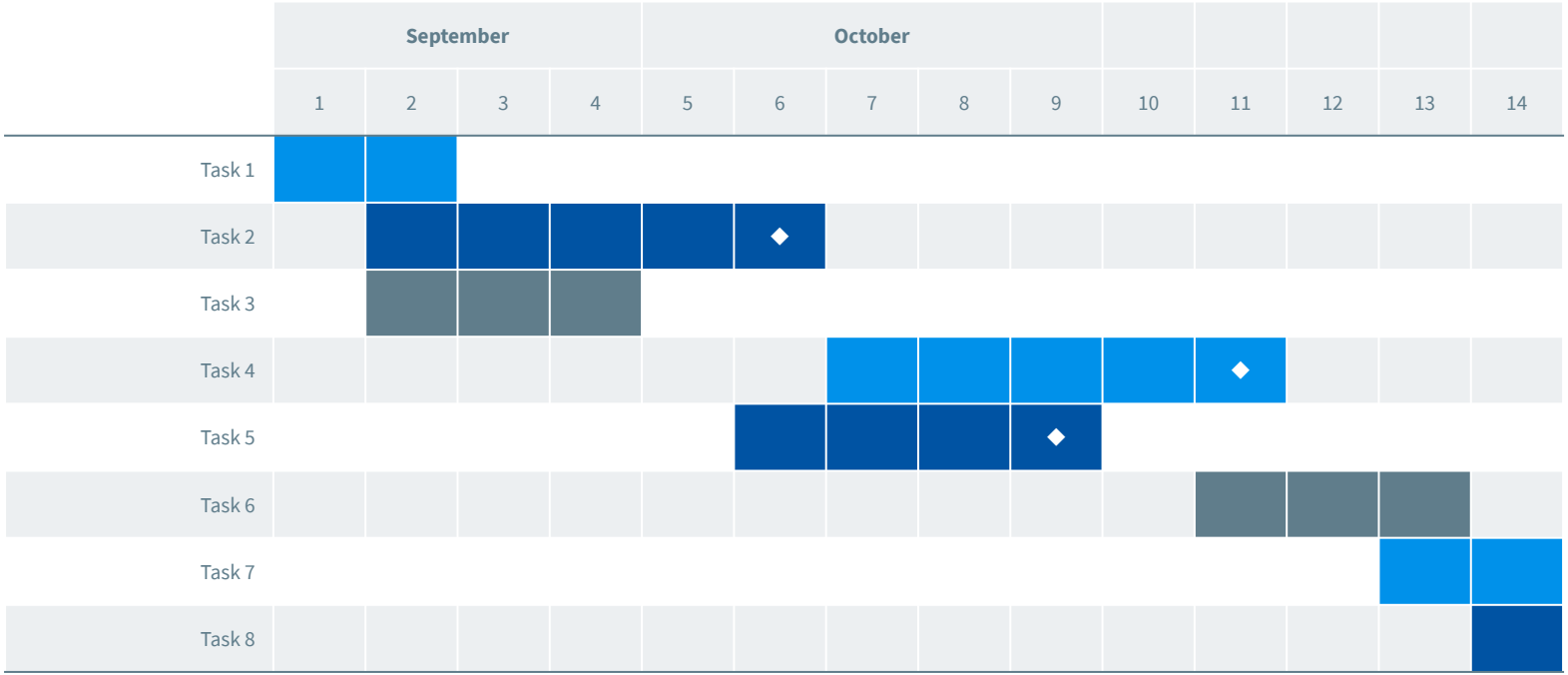
tweaking

building

Timeline


Outreach
Red is the colour of danger and courage
Black is the color of ebony and of outer space
Yellow is the color of gold, butter and ripe lemons
White is the color of milk and fresh snow
AUG
SEP
OCT
NOV
DEC
JAN
FEB
MAR
APR
Yellow is the color of gold, butter and ripe lemons
White is the color of milk and fresh snow
Blue is the colour of the clear sky and the deep sea
Red is the colour of danger and courage

Gantt chart


September
October
1
2
3
4
5
6
7
8
9
10
11
12
13
14
Task 1
Task 2
Task 3
Task 4
Task 5
Task 6
Task 7
Task 8

Business Model Canvas

Key Partners

Insert your content

Key Activities

Insert your content

Key Resources

Insert your content

Value Propositions

Insert your content

Customer Relationships

Insert your content

Channels

Insert your content

Customer Segments

Insert your content

Cost Structure

Insert your content

Revenue Streams

Insert your content

Big concept



Bring the attention of your audience over a key concept using icons or illustrations

This is a slide title

- Here you have a list of items
- And some text
- But remember not to overload your slides with content

Your audience will listen to you or read the content, but won’t do both.

You can also split your content

White

Is the color of milk and fresh snow, the color produced by the combination of all the colors of the visible spectrum.

Black

Is the color of ebony and of outer space. It has been the symbolic color of elegance, solemnity and authority.

In two or three columns

Yellow

Is the color of gold, butter and ripe lemons. In the spectrum of visible light, yellow is found between green and orange.

Blue

Is the colour of the clear sky and the deep sea. It is located between violet and green on the optical spectrum.

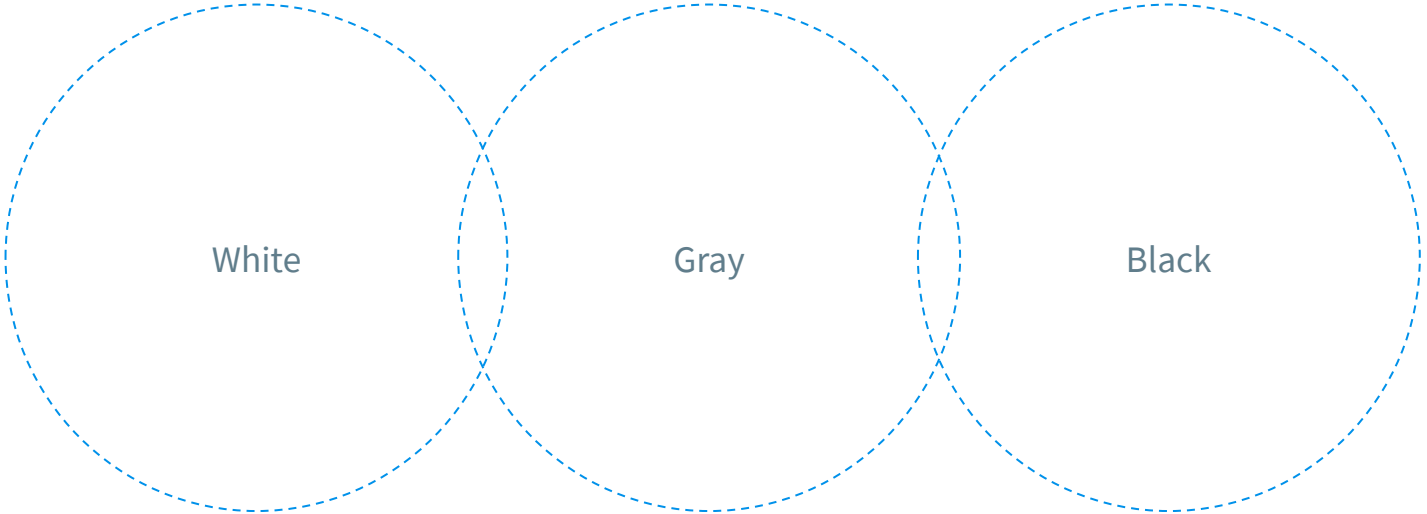
Red

Is the color of blood, and because of this it has historically been associated with sacrifice, danger and courage.

A picture is worth a thousand words

A complex idea can be conveyed with just a single still image, namely making it possible to absorb large amounts of data quickly.

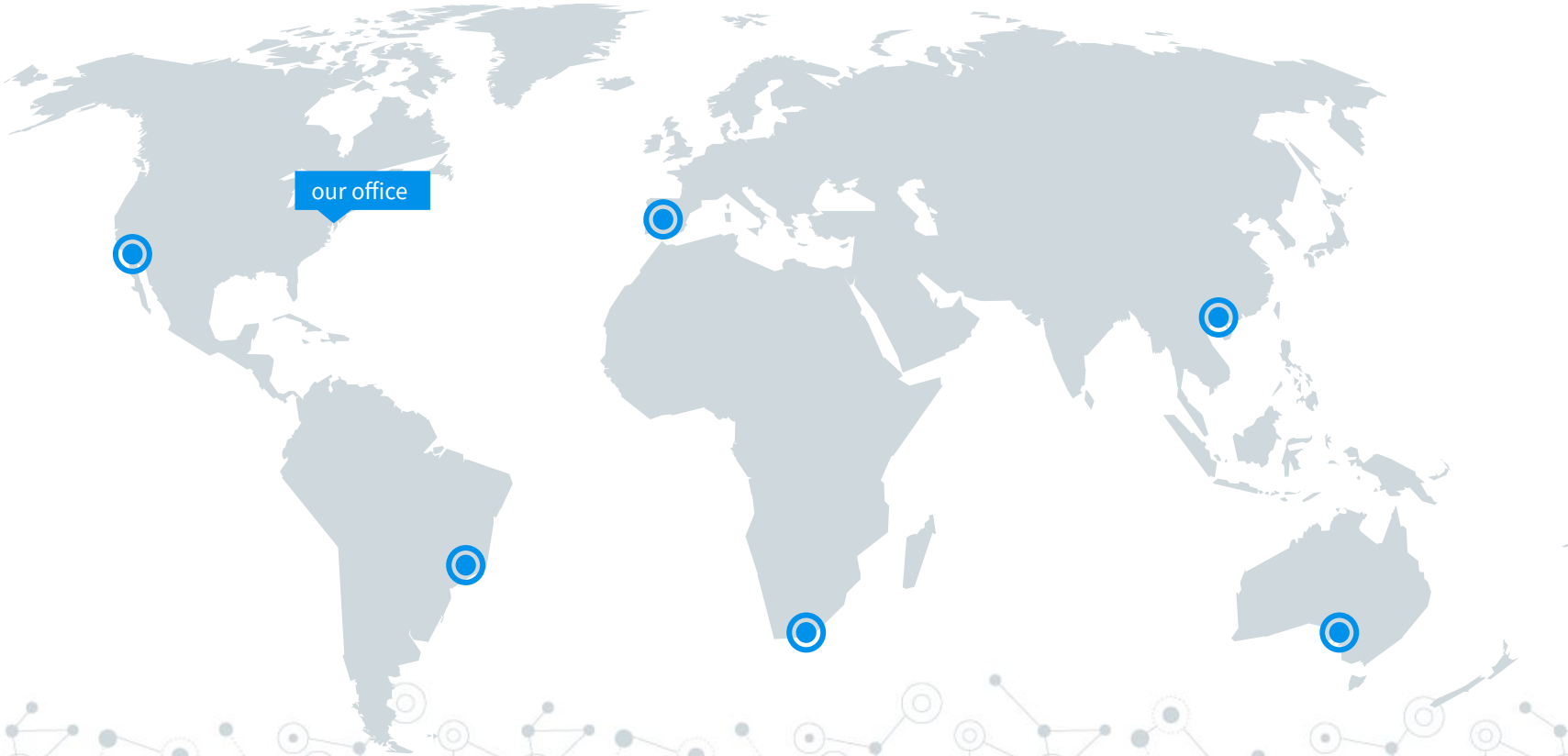



White
Gray
Black

And tables to compare data

	A	B	C
Yellow	**10**	**20**	**7**
Blue	**30**	**15**	**10**
Orange	**5**	**24**	**16**

Maps



89,526,124

Whoa! That’s a big number, aren’t you proud?

Presentation design

This presentations uses the following typographies and colors:

- Titles: **Roboto Slab**
- Body copy: **Source Sans Pro**

Download for free at:

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https://www.fontsquirrel.com/fonts/source-sans-pro

You don’t need to keep this slide in your presentation. It’s only here to serve you as a design guide if you need to create new slides or download the fonts to edit the presentation in PowerPoint®

89,526,124$

That’s a lot of money

185,244 users

And a lot of users

100%

Total success!

Let’s review some concepts



Yellow

Is the color of gold, butter and ripe lemons. In the spectrum of visible light, yellow is found between green and orange.



Blue

Is the colour of the clear sky and the deep sea. It is located between violet and green on the optical spectrum.



Red

Is the color of blood, and because of this it has historically been associated with sacrifice, danger and courage.



Yellow

Is the color of gold, butter and ripe lemons. In the spectrum of visible light, yellow is found between green and orange.



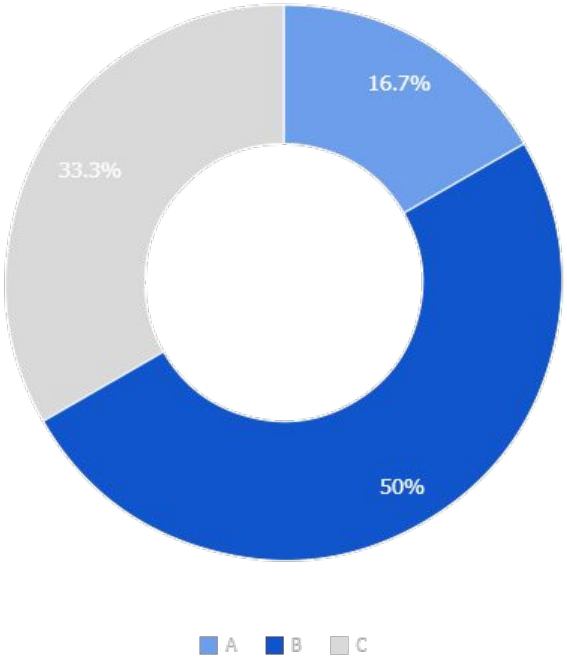
Blue

Is the colour of the clear sky and the deep sea. It is located between violet and green on the optical spectrum.



Red

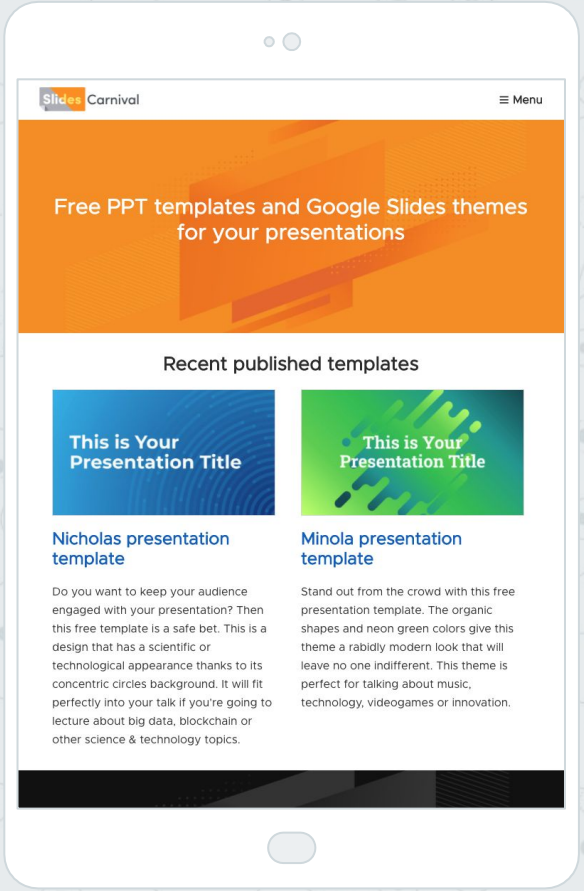
Is the color of blood, and because of this it has historically been associated with sacrifice, danger and courage.

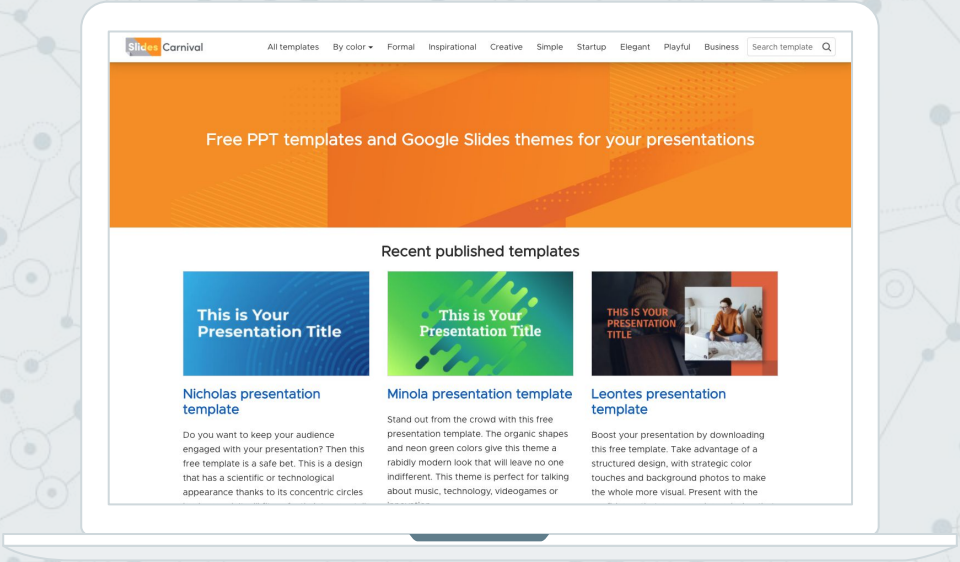


You can copy&paste graphs from Excel or Google Sheets

Tablet project

Show and explain your web, app or software projects using these gadget templates.





Desktop project

Show and explain your web, app or software projects using these gadget templates.

Thanks!

Any questions?

You can find me at:

@username & user@mail.me

Credits

Special thanks to all the people who made and released these awesome resources for free:

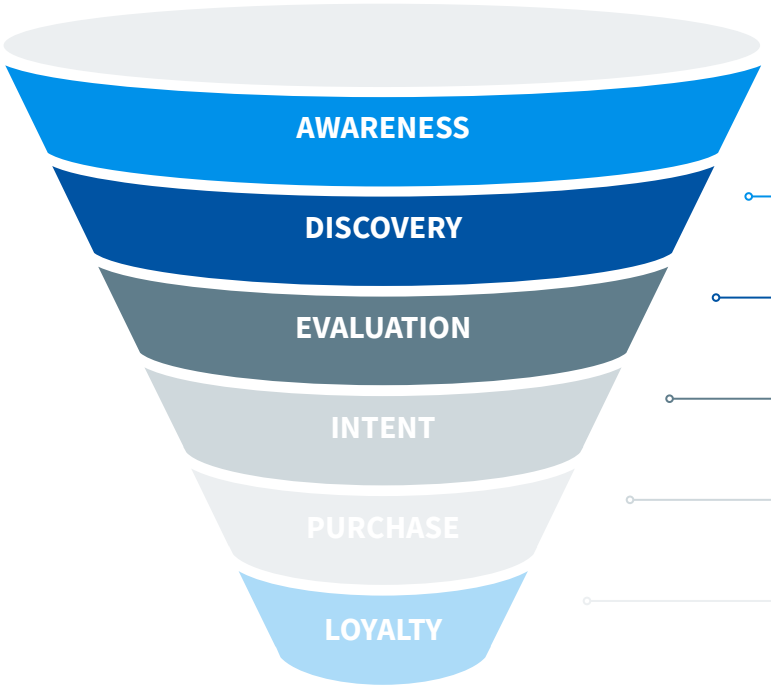
- Presentation template by SlidesCarnival
- Photographs by Unsplash

2.

Extra Resources

For Business Plans, Marketing Plans, Project Proposals, Lessons, etc

Funnel



Insert your content

Insert your content

Insert your content

Insert your content

Insert your content

Insert your content

Team Presentation



Imani Jackson
JOB TITLE
Blue is the colour of the clear sky and the deep sea



Marcos Galán
JOB TITLE
Blue is the colour of the clear sky and the deep sea

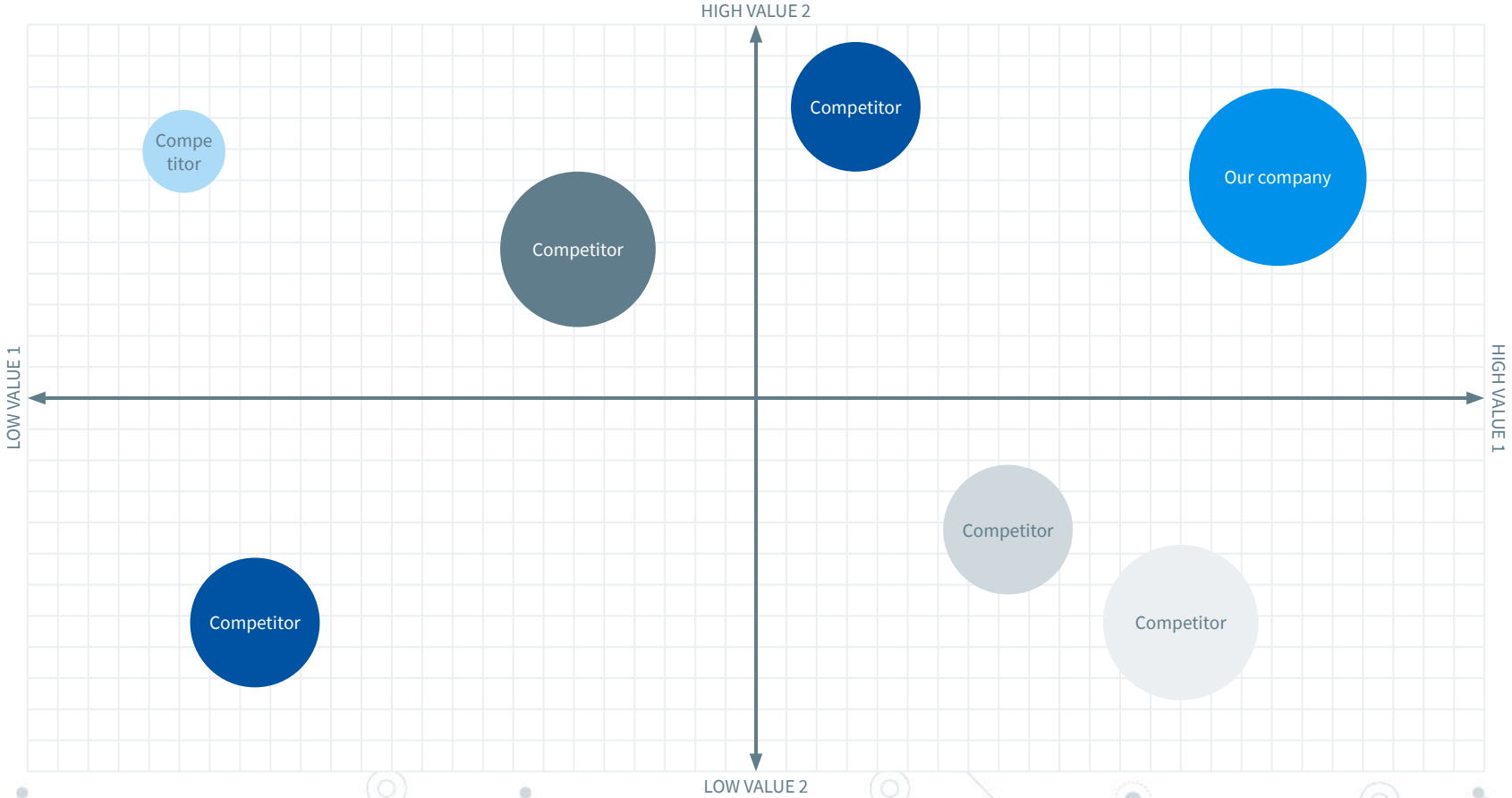


Ixchel Valdía
JOB TITLE
Blue is the colour of the clear sky and the deep sea



Nils Årud
JOB TITLE
Blue is the colour of the clear sky and the deep sea

Competitor Matrix



Weekly Planner

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
09:00 - 09:45	Task	Task	Task	Task	Task	Task	Task
10:00 - 10:45	Task	Task	Task	Task	Task	Task	Task
11:00 - 11:45	Task	Task	Task	Task	Task	Task	Task
12:00 - 13:15	✔ Free time	✔ Free time	✔ Free time	✔ Free time	✔ Free time	✔ Free time	✔ Free time
13:30 - 14:15	Task	Task	Task	Task	Task	Task	Task
14:30 - 15:15	Task	Task	Task	Task	Task	Task	Task
15:30 - 16:15	Task	Task	Task	Task	Task	Task	Task



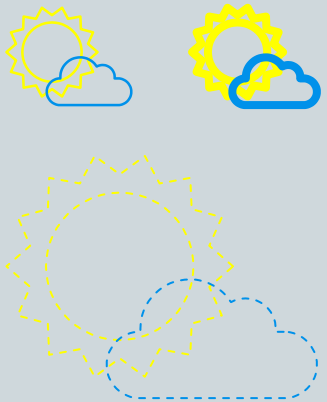
SlidesCarnival icons are editable shapes.

This means that you can:

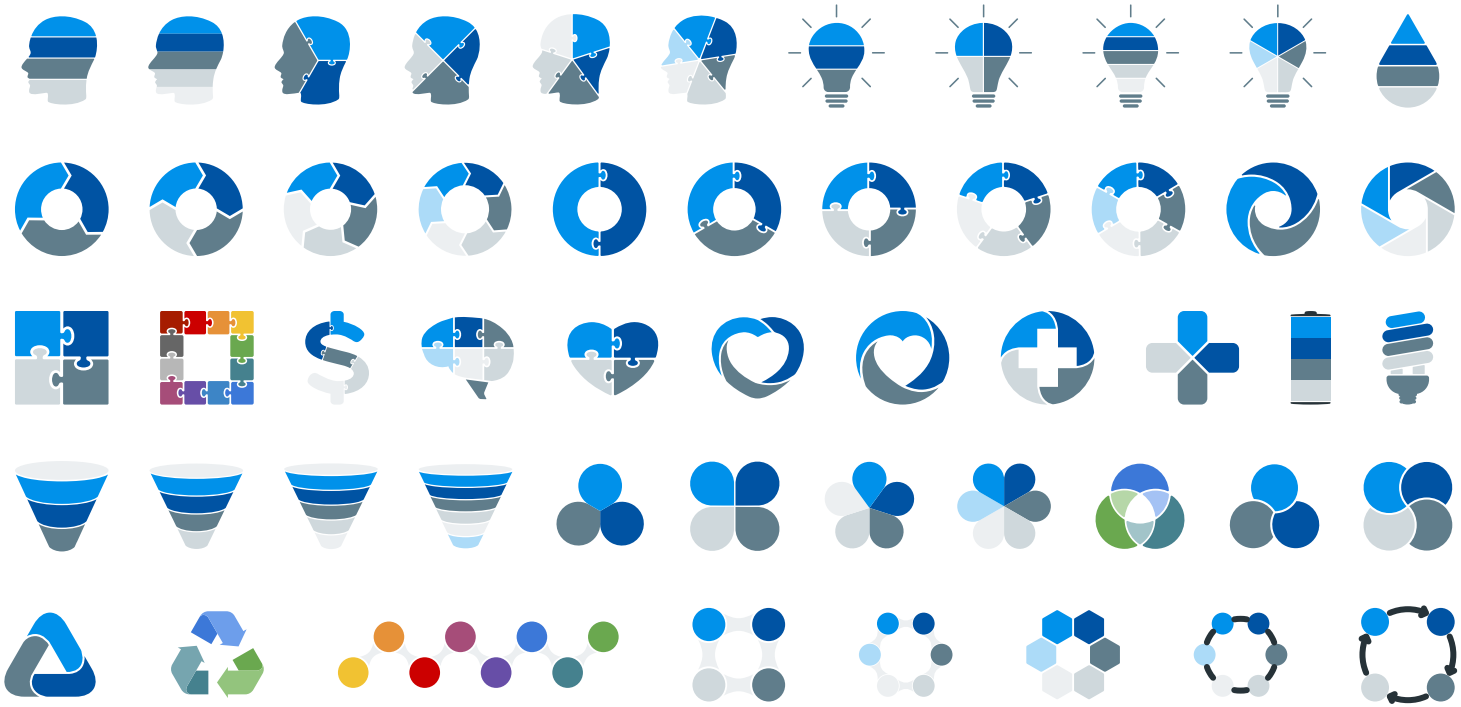
- Resize them without losing quality.
- Change line color, width and style.

Isn't that nice? :)

Examples:



Diagrams and infographics



Now you can use any emoji as an icon!
And of course it resizes without losing quality and you can change the color.

How? Follow Google instructions https://twitter.com/googledocs/status/730087240156643328



and many more...

Slides Carnival

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