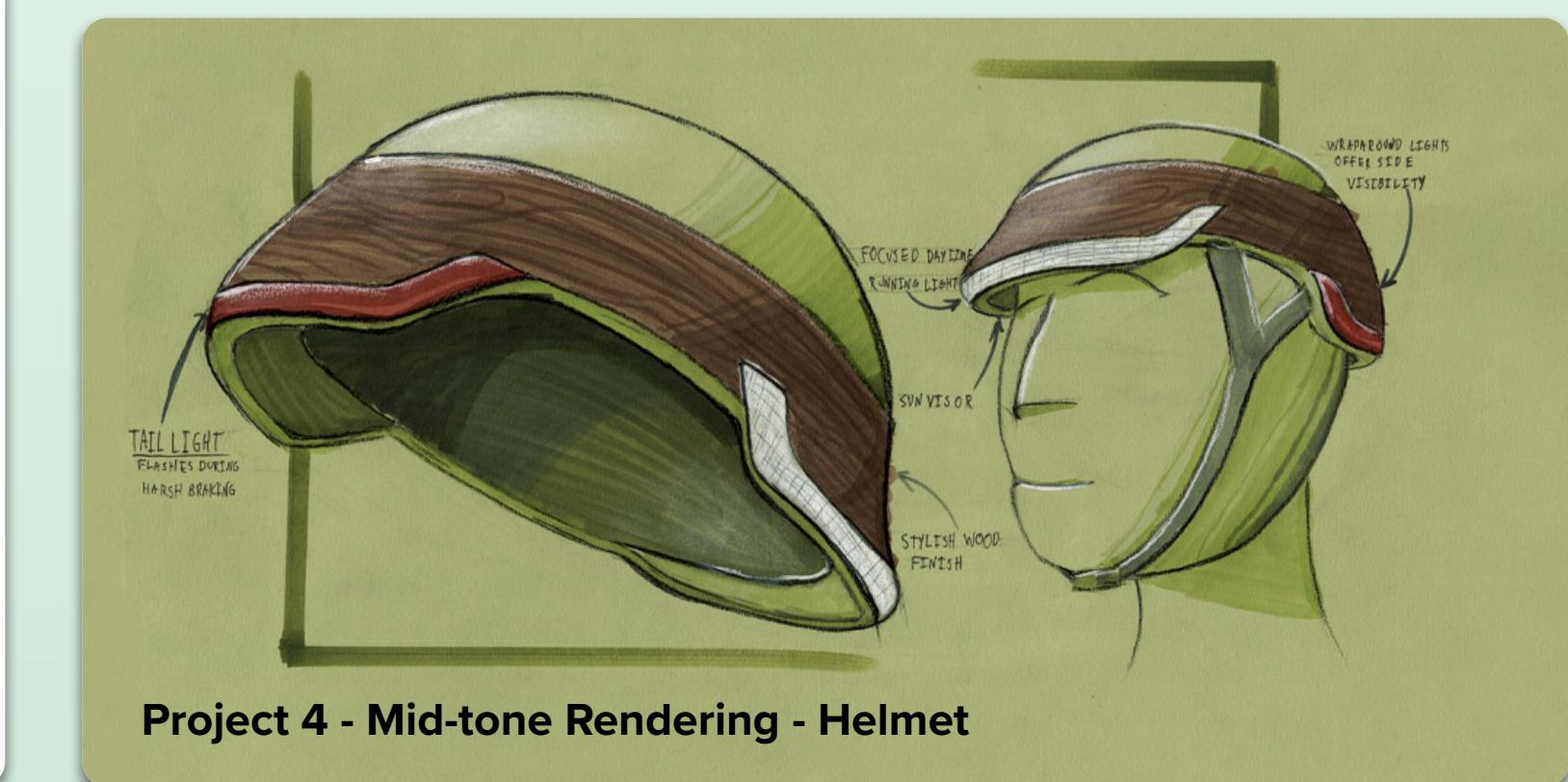
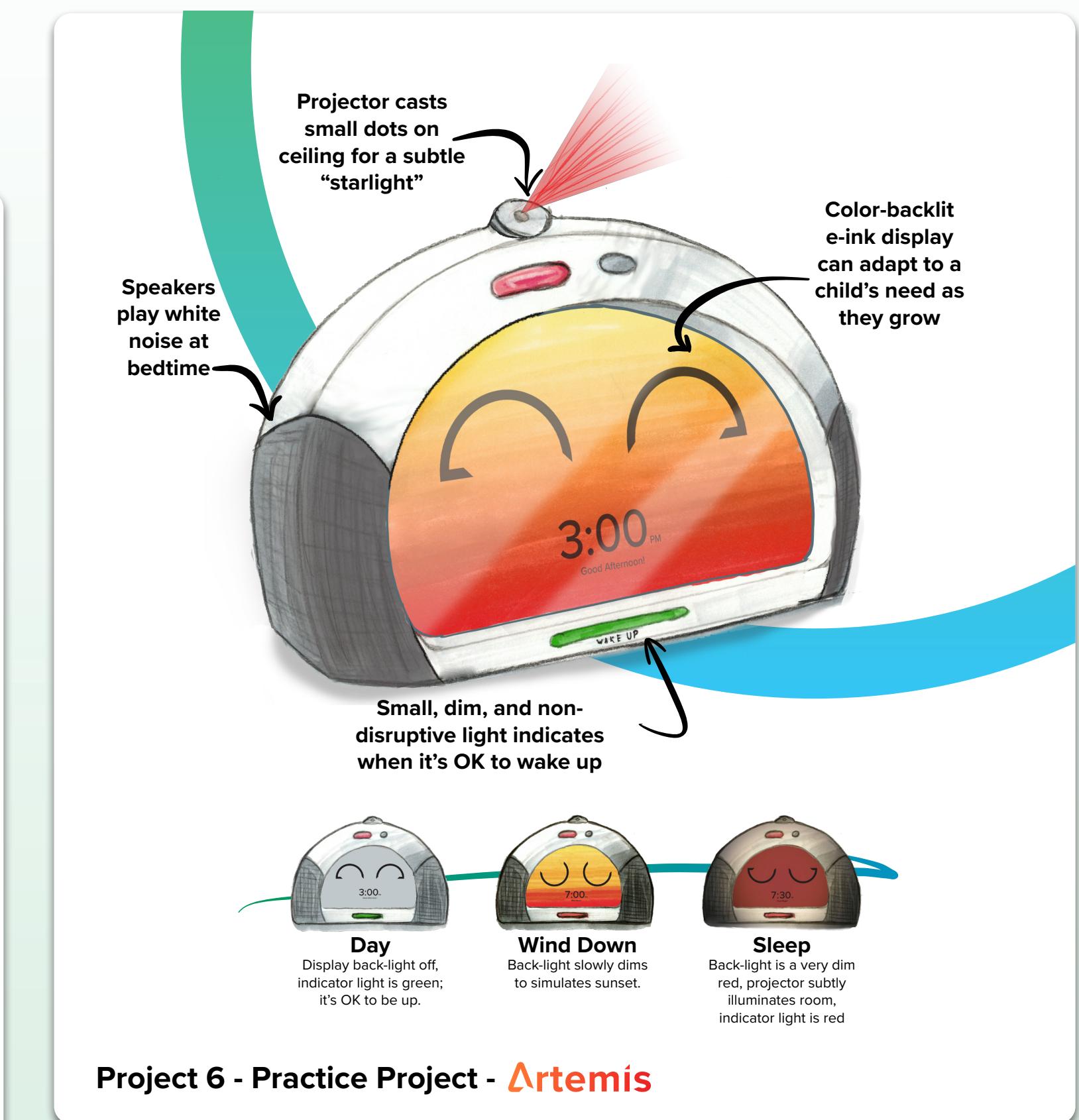
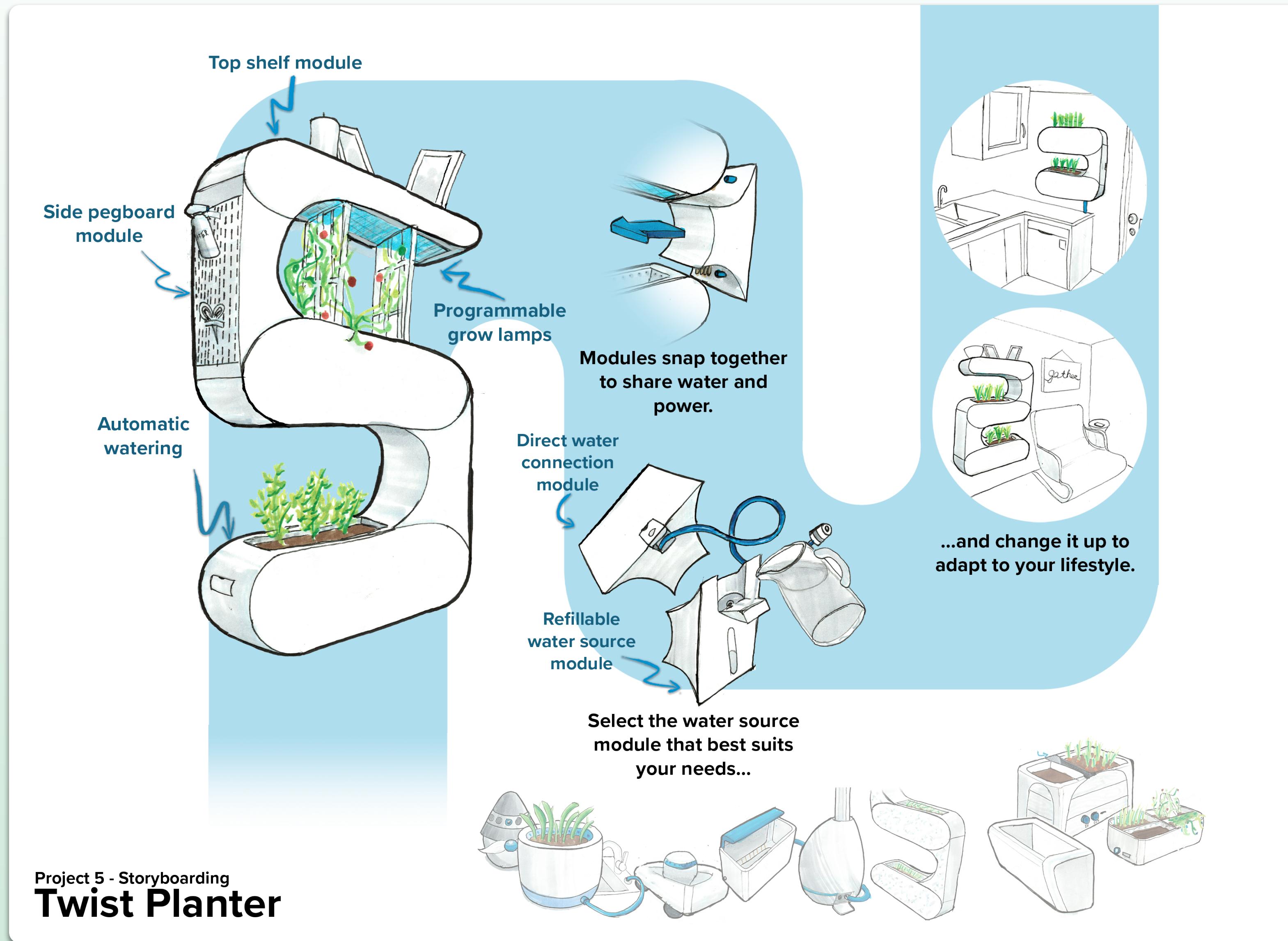


PDES 2703

Isak Winter



PDES 2777

Isak Winter



Foamcore Lamp



HDU Replica

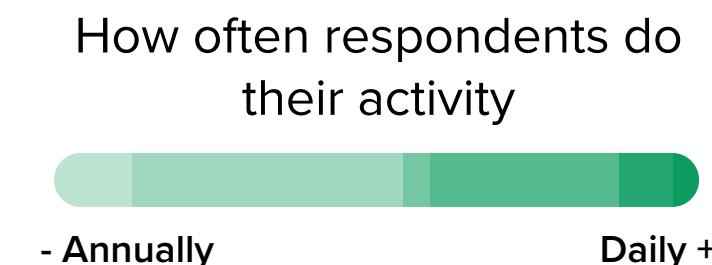
Design Challenge Research

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Survey Results

24 Responses

71% Are Hikers **50%** Don't Carry First Aid



Respondents don't seem properly prepared or informed about first-aid essentials.

Respondents don't carry first-aid kits because they're **hard to carry**, too big, and feel unnecessary.

Respondents generally prefer first-aid solutions that are compact, light weight, and easy to use.

Interview with Millie



- Millie is a multi-day hiker, backpacker, and alpine climbing student.
- Stores med pack inside front backpack pocket
- Adapts store-bought kits for long and short journeys
- Prepared for cuts, blisters. Not yet prepared for sprains.

Market Research

Of Popular First Aid Kit Lines



- + Easy to use. Includes instructions. Good selection.
- Most kits don't have splints. Big and unwieldy top tiers.



- + Compact, easy to carry. Easy to use. Includes instructions.
- Generally underequipped, except top tier.



- + Easy to use. Includes instructions. Good selection.
- Most kits don't have splints. Big and unwieldy top tiers.



- + Some kits include glue. Refills offered.
- No instruction booklet. Extremely underequipped. Big considering limited utility.

External Research

of Deep Wilderness Injuries

52%

of hiking injuries were **sprains or fractures**, which can be treated with a **splint**.

4%

of hiking injuries led to **tissue infection**, which can be treated with a **syringe** and **medical gloves**.

15% of hikers carry a **splint**.

5% of hikers carry **gloves**.

<1% of hikers carry a **syringe**.

Band-Aids

were the **most carried** medical item, however they have **limited utility** in active settings.

Brandenburg, William E., and Brian W. Locke. "Mountain Medical Kits: Epidemiology-Based Recommendations and Analysis of Medical Supplies Carried by Mountain Climbers in Colorado." Journal of Travel Medicine, vol. 24, no. 2, 20 Jan. 2017, https://doi.org/10.1093/jtm/taw088. Accessed 24 Apr. 2024.

Insights

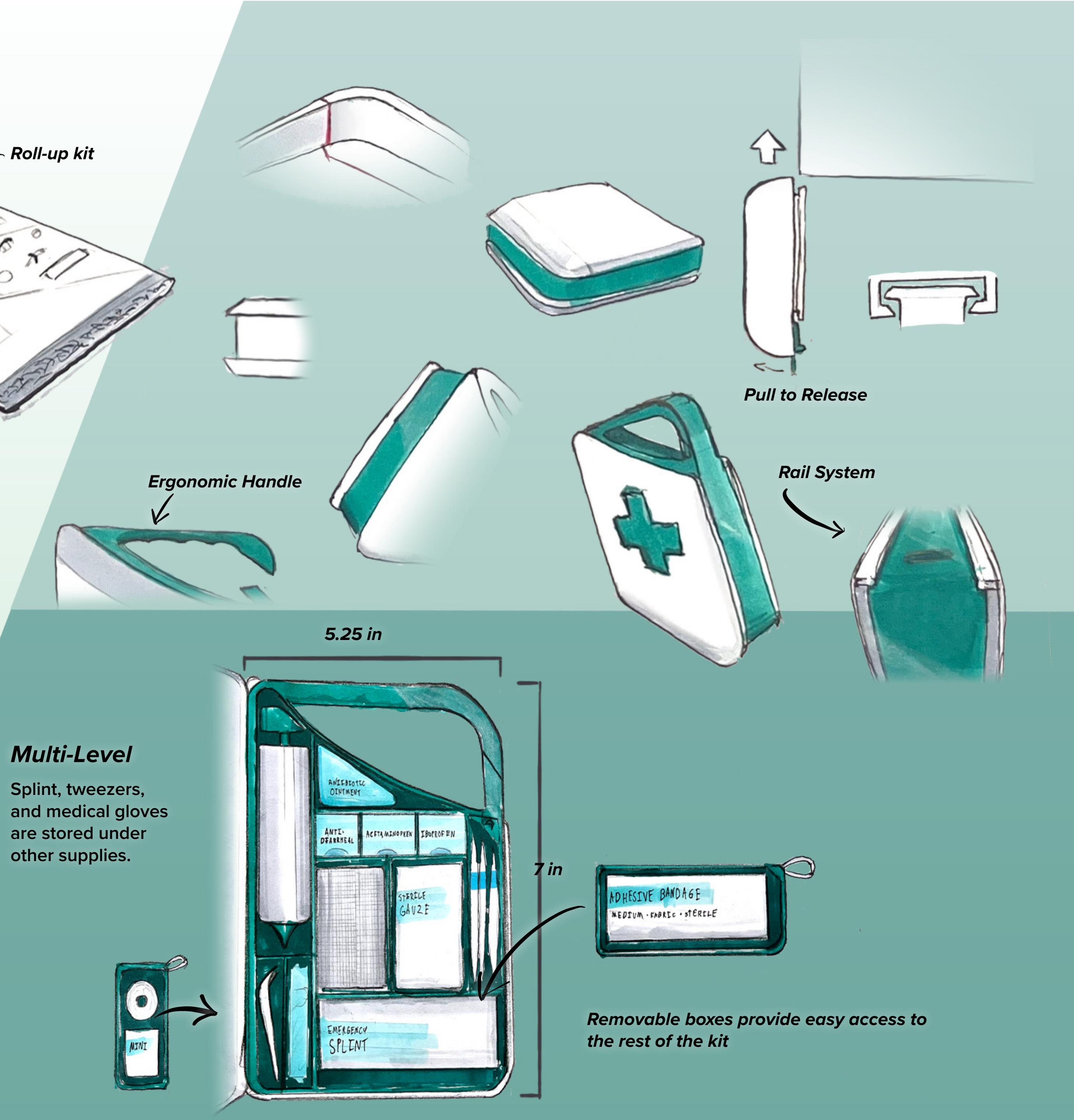
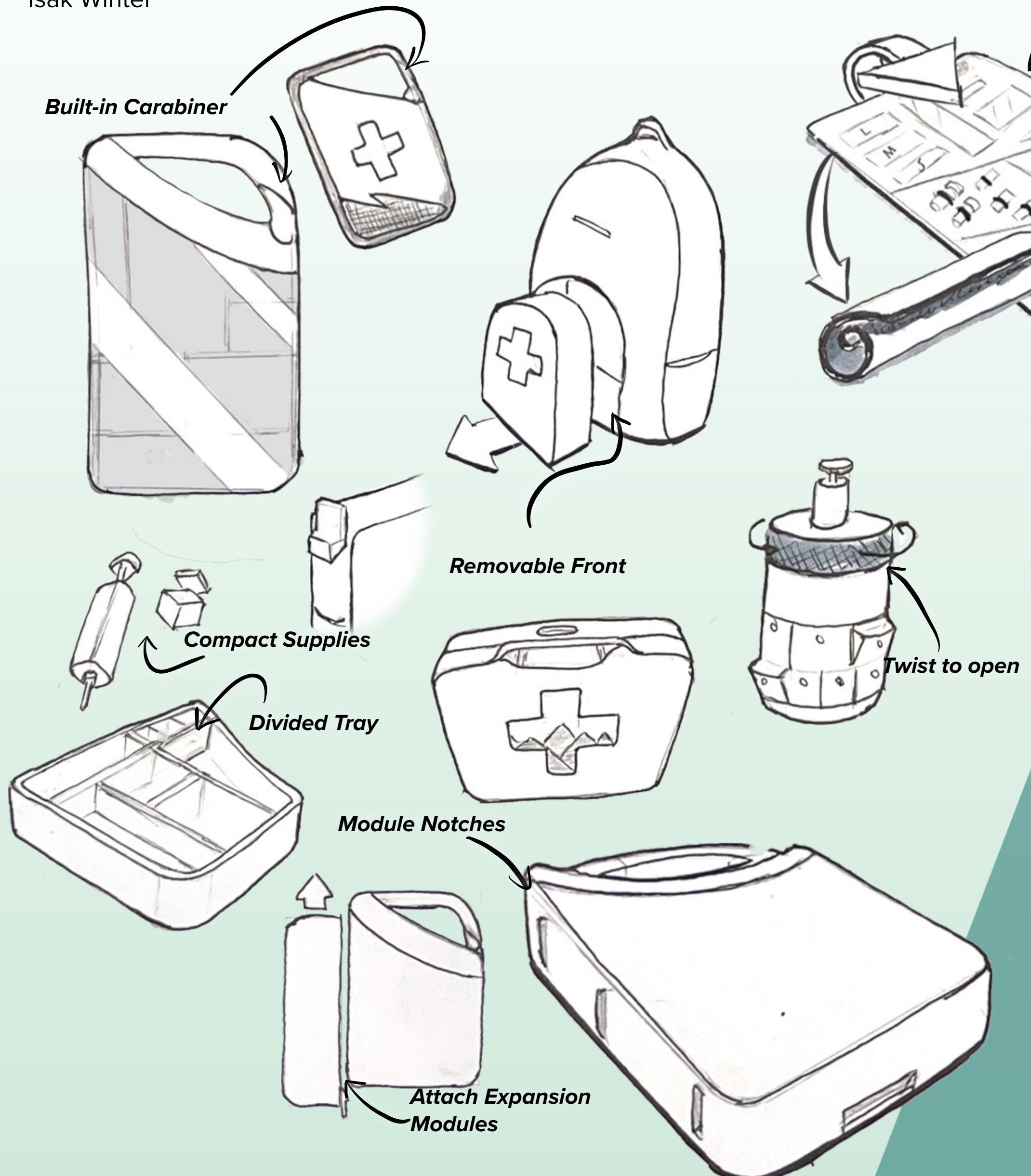
- Users **aren't prepared** for or **educated** about first-aid emergencies.
- Current kits **don't meet the needs** of their users, so users often **assemble their own**.
- Needs can vary **significantly** and **often**. Brands offer a **variety of kits** to overcome this, but **confuse** users and **compromise utility** in the process.

How might we adapt to the varying first aid needs of outdoor activities?



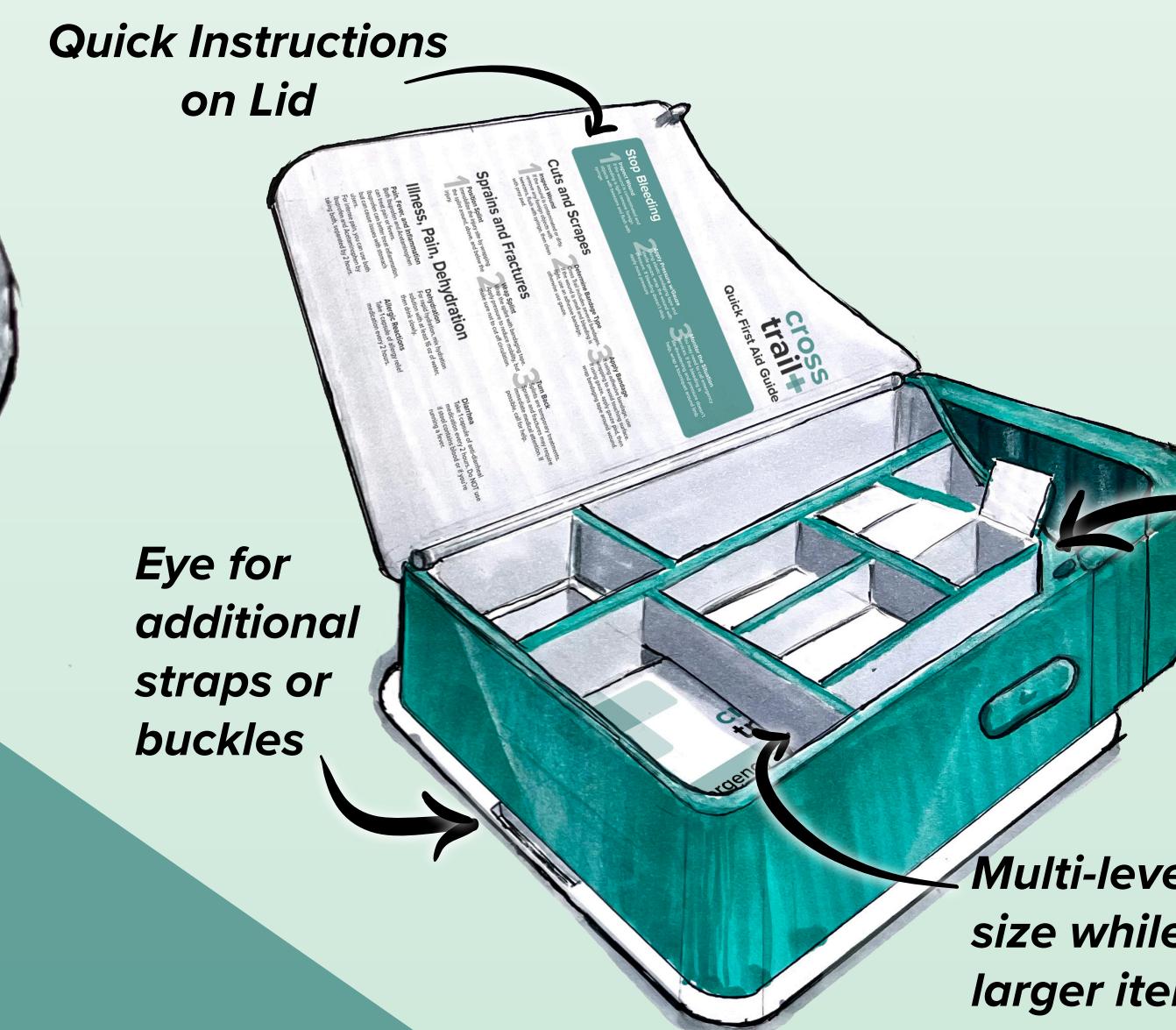
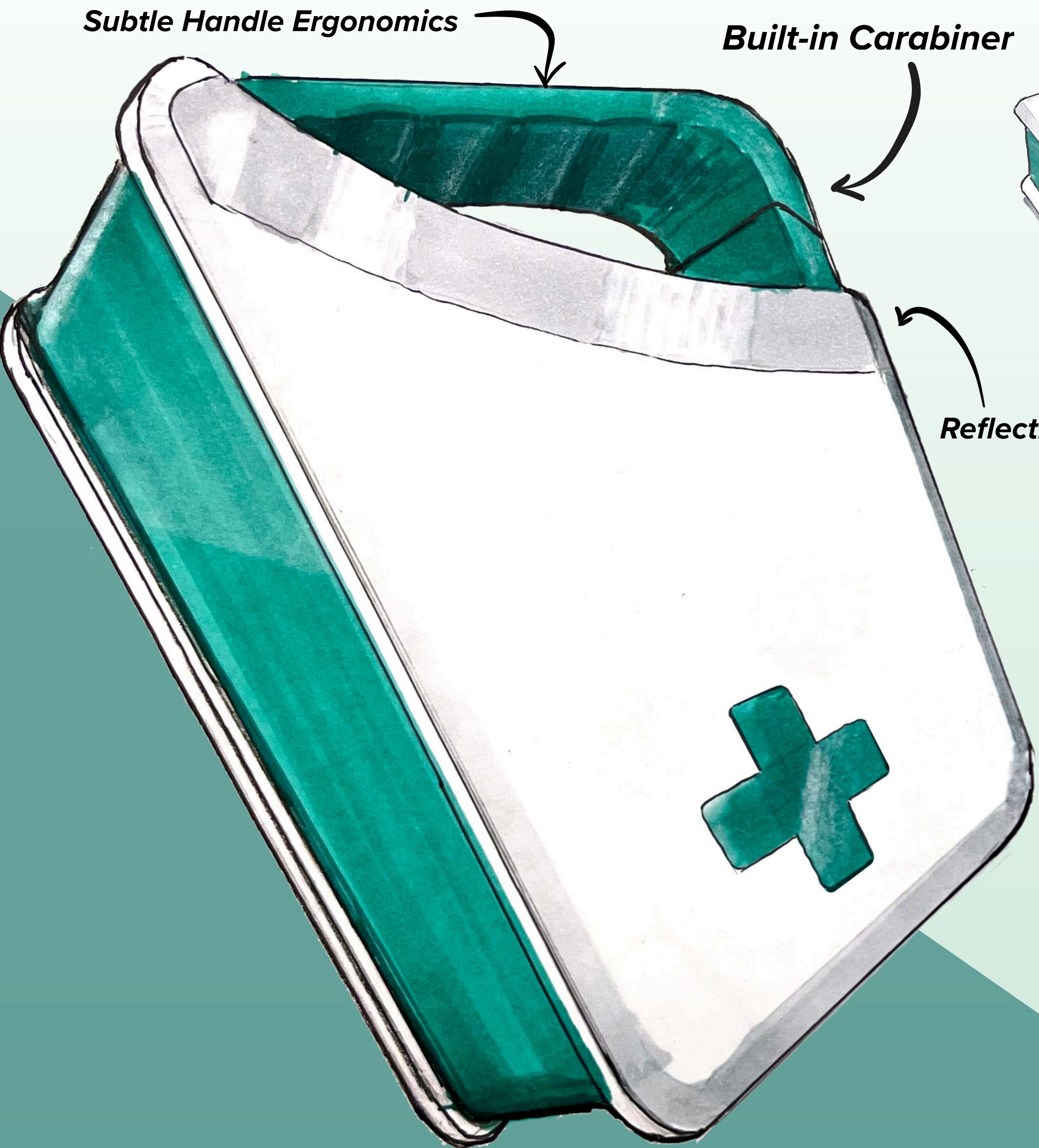
Design Challenge Ideation

Isak Winter



Design Challenge Concept

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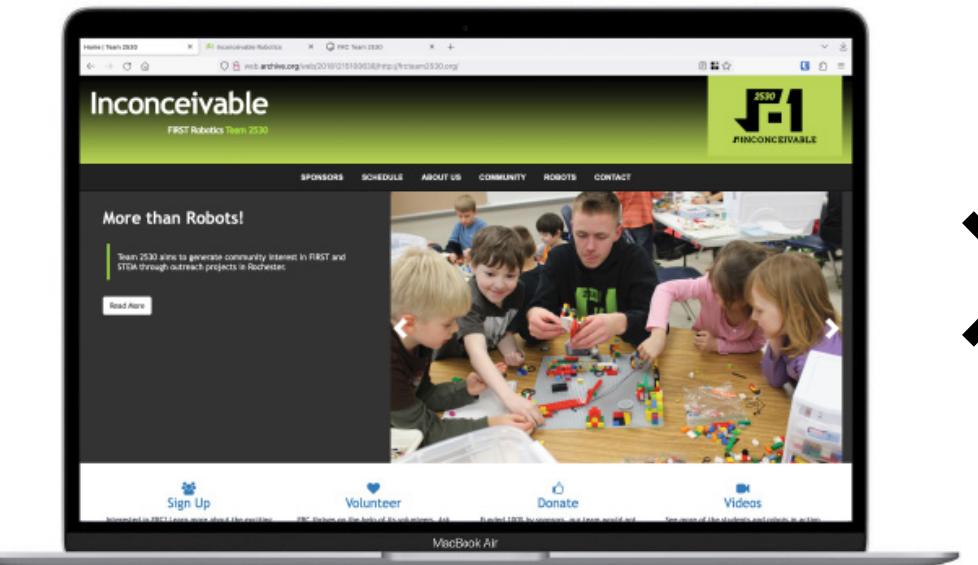
**cross
trail+**

FRC Robotics Team 2530 **F-INCONCEIVABLE**

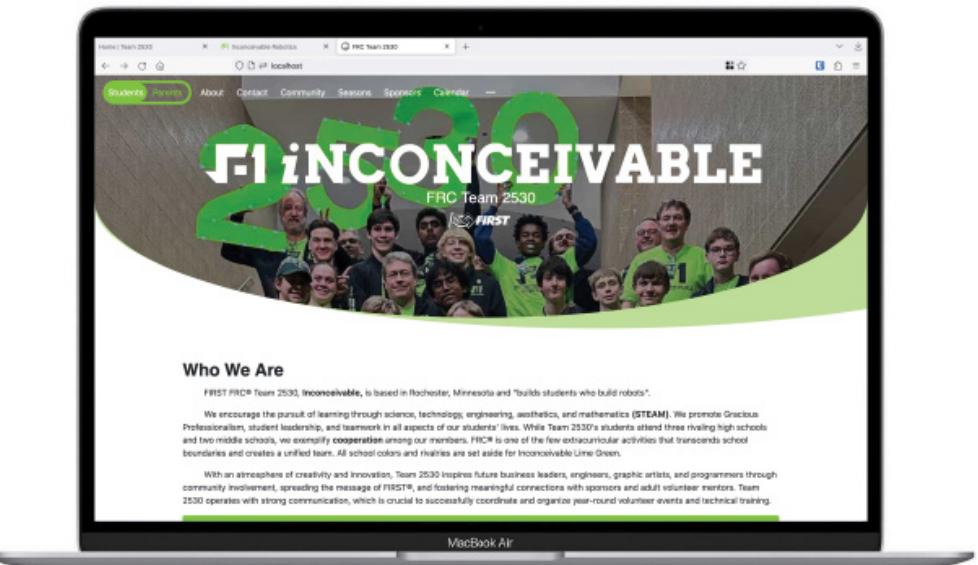
Isak Winter

Website Rewrite

Faster and easier to use.
Special features for team members,
parents, and sponsors.



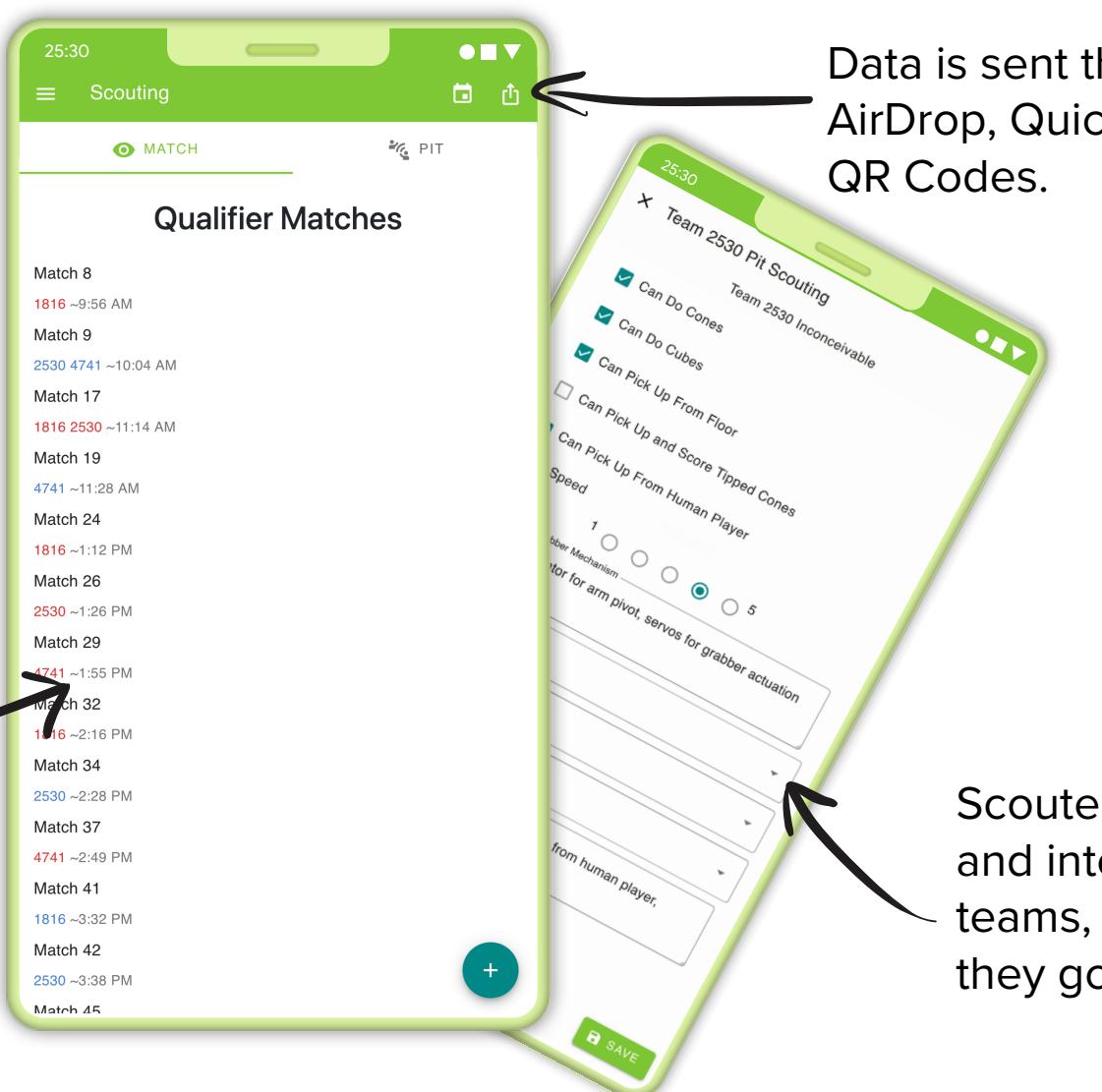
2018



2023

F1 Swerve Scout

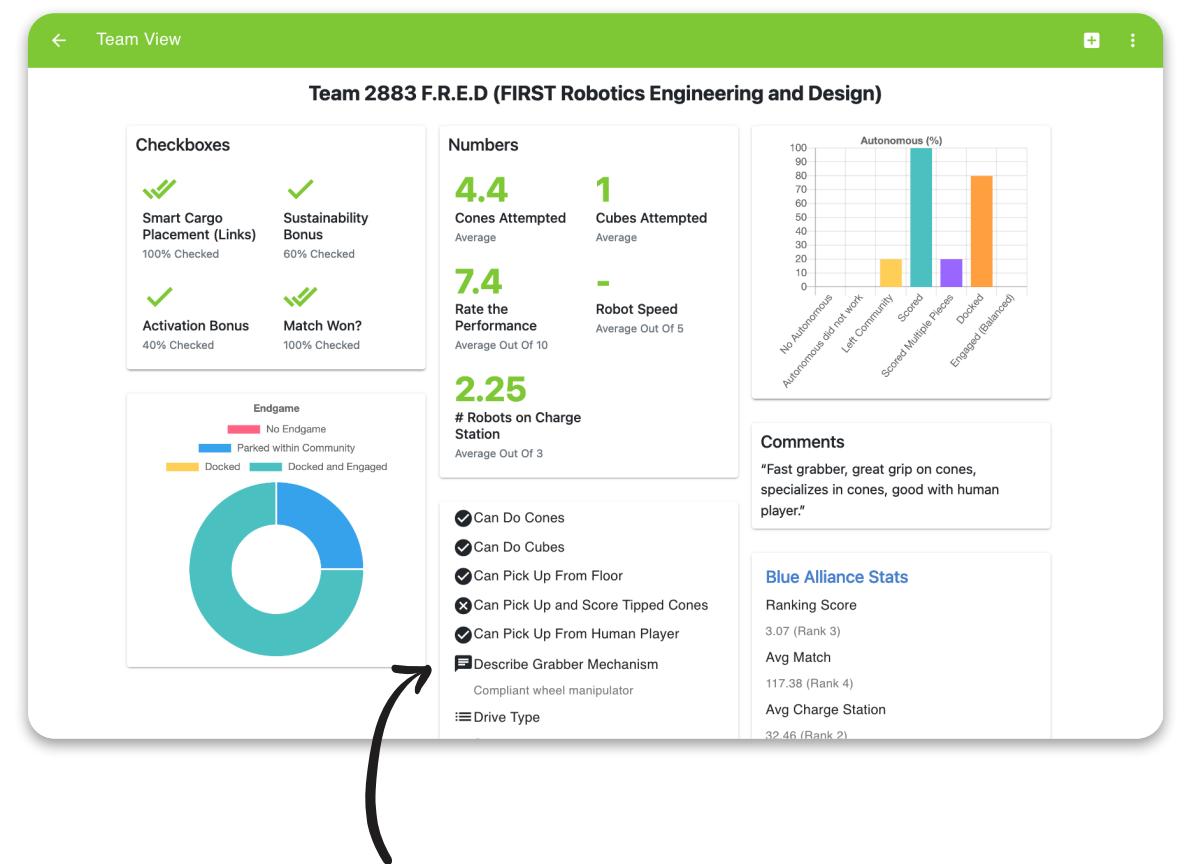
Swerve is a tool used by Team 2530 to collect and aggregate data about other FIRST teams. This data can be used to make strategic decisions during alliance selection. Swerve increased scouter engagement and greatly sped up data collection and processing.



Data is sent through
AirDrop, Quick Share, or
QR Codes.

Swerve
generates
a schedule
of assigned
matches for the
scouter

Scouters watch matches
and interview other
teams, recording info as
they go.



Team view clearly shows
all data about a team,
including up-to-date stats
from FIRST

Sponsor Boards & Shields

- Graphic Design & Layout
- Physical Modeling with Corrugated Plastic & Vinyl

2022 Robot Shown



Other Contributions

- Letters, flyers, sponsor relations.
- Brand identity guides
- Robot programing sub-team work
- Impact Award Submission

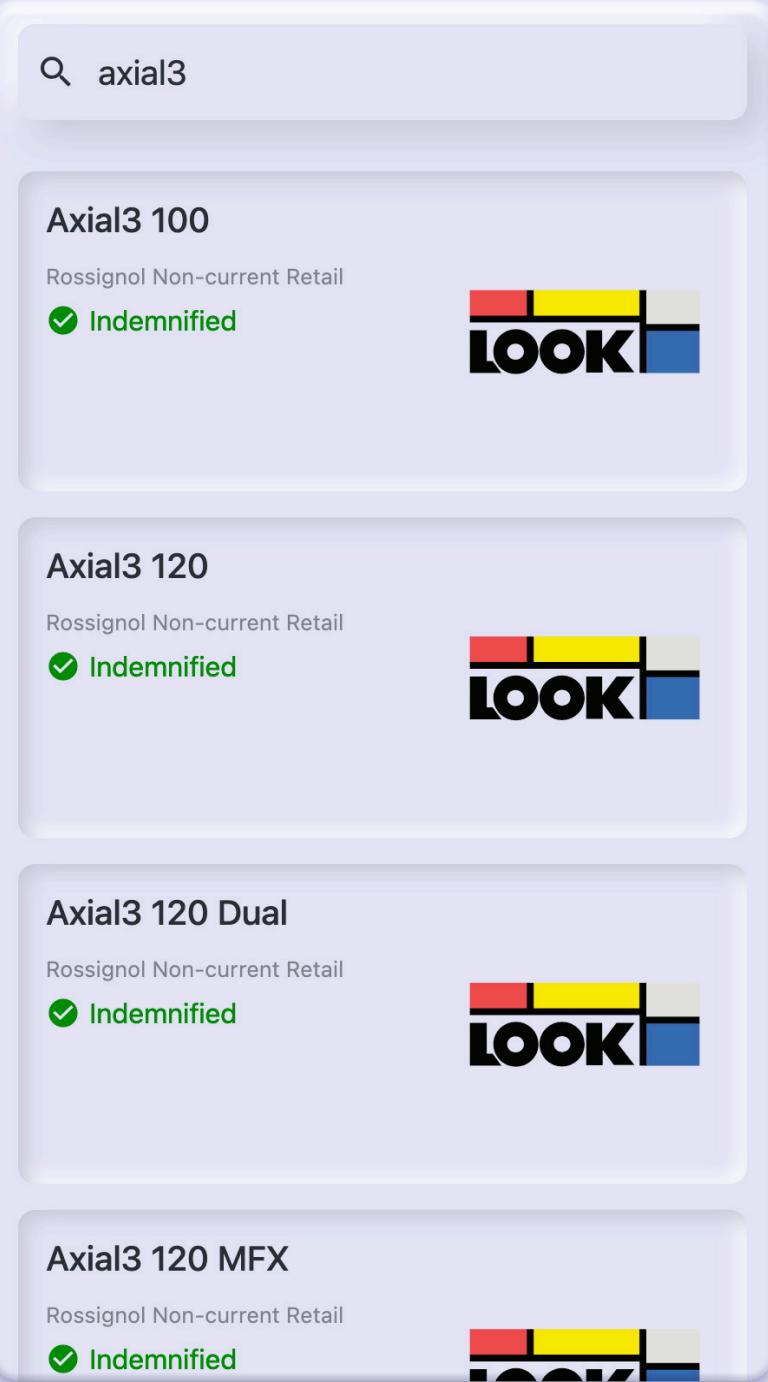
Other Work

Isak Winter

Indemnity Check



Ski technicians contractually aren't allowed to service bindings that don't meet current safety standards. Indemnity check allows technicians to search for bindings that are supported by their manufacturer without sorting through paper service manuals.

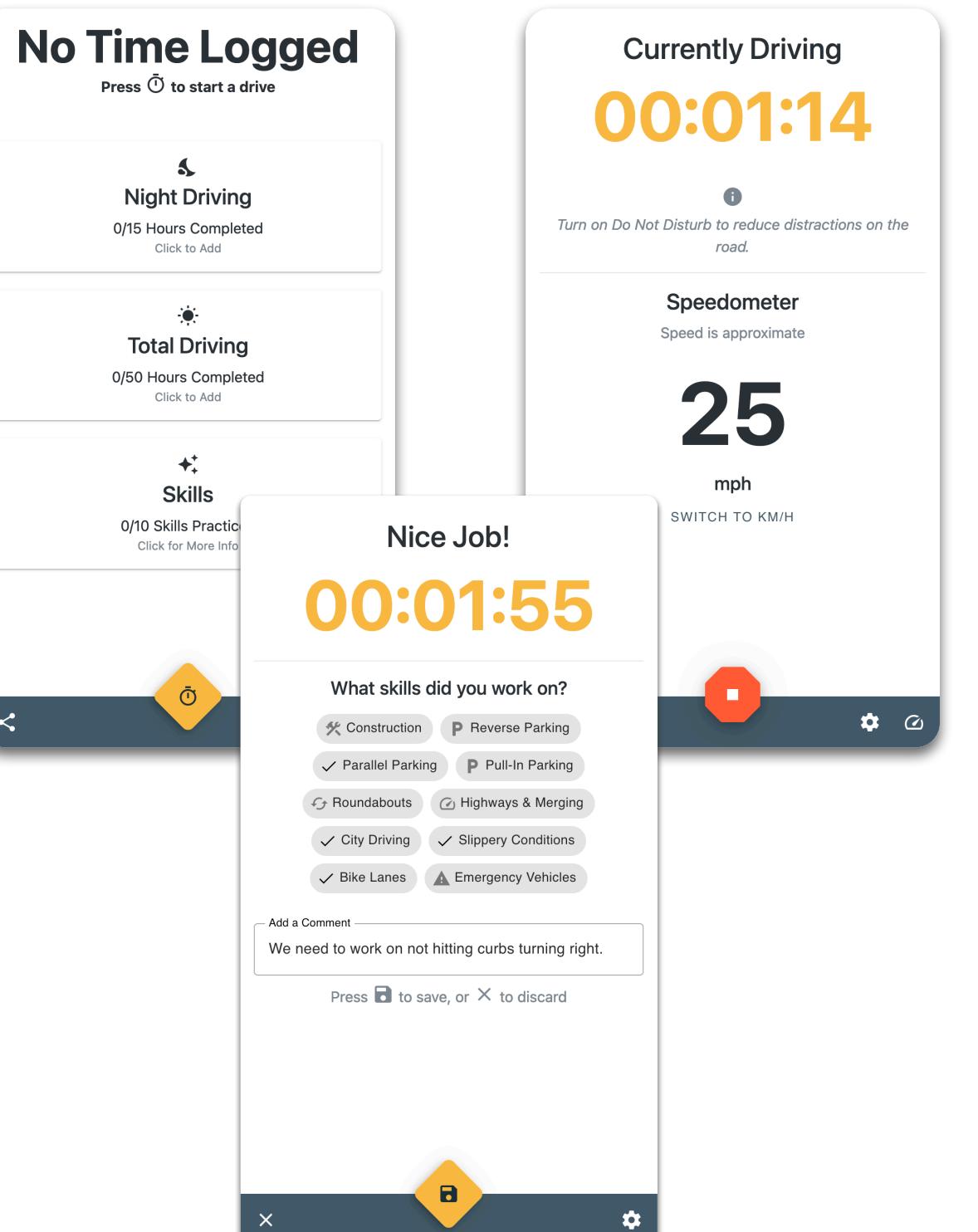


Student Driving Log



Users can monitor their driving permit progress and see the skills they need to practice.

A distraction-free interface with driving time and speed, so passengers doesn't need to look over shoulders.



A floating action button easily triggers primary actions - start, stop, and save.

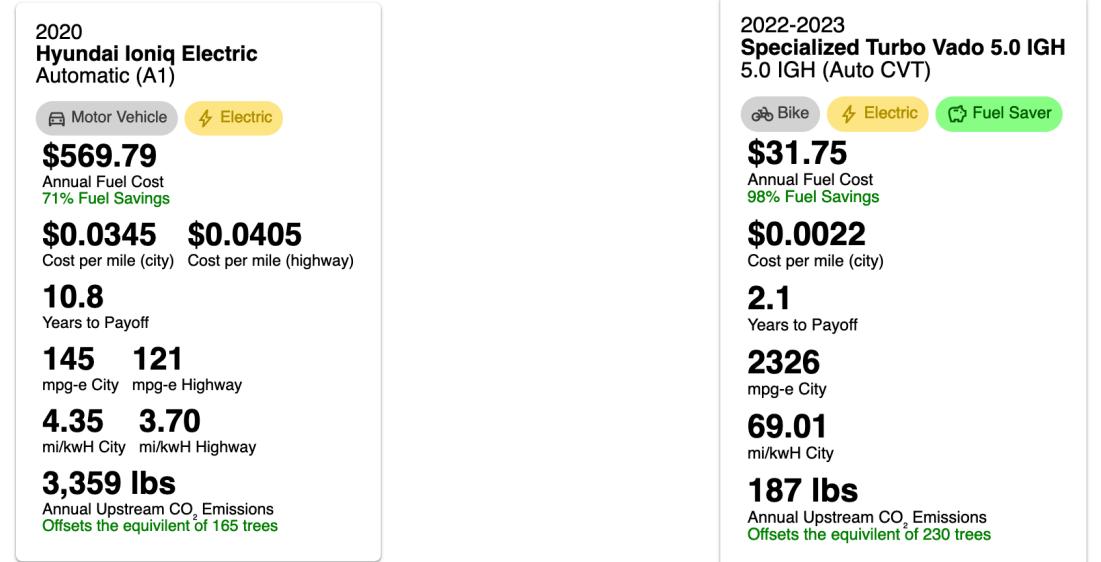
Current Job - Service & Repair



Since May 2021
Rochester & Saint Paul Stores

Vehicle Compare Project

An in-progress coding project that calculates fuel economy data across a wide range of vehicles, including electric bikes.



Drivers can see when a vehicle would pay for itself in fuel costs along with CO₂ offsets to make an informed decision.