

IOWA ADVENTURE CYCLIST COURSE CREATOR



**LIGHTNING TALK 3:
USER NEEDS & REQUIREMENTS**

SD MAY 25 -06



PROJECT OVERVIEW

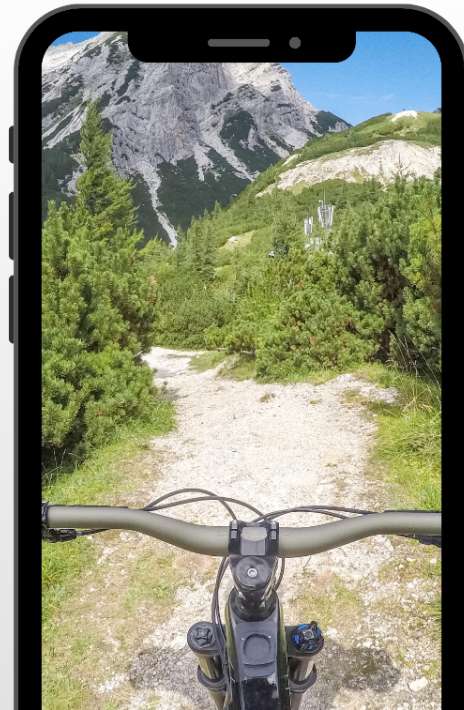
THE CREATION OF A MAPPING
APPLICATION FOR CYCLISTS THAT CAN:



Use mapping utility
to create routes that
can be exported to
GPS devices or other
applications



Identify different
types of road
surfaces and
elevations of
intended route



Identify average
traffic flow of
intended route



Identify potential
roadblocks and
safety hazards

PROBLEM STATEMENT



- Cyclists need a way to determine the surface classification of unfamiliar roads when charting out a path ahead of time



- Some cyclists prefer to stay on paved roads while other adventure cyclists seek out rougher “Class B” roads



NEED STATEMENT



- **Adventurous cyclists** need a way to find and **explore new routes** because **current trail maps aren't accurate**



- **Casual cyclists** need a way to plan out routes that will be of the **correct difficulty** for them because current **trail information isn't extensive**



- **Cyclists who cycle as a family with kids** need a way to tell which paths are busy and how much traffic there is because they want to **keep their kids safe**

REQUIREMENTS



FUNCTIONAL

Generates routes based on destination, road type, and additional stops



RESOURCE

Uses up to date data from the Iowa DOT



PHYSICAL

Works with GARMIN Hardware. iOS and Android devices



AESTHETIC

Uses helpful colors to display information, map visuals are clean



USER EXPERIENTIAL

Interface that is easy to navigate by the user



ENVIROMENTAL

Should be functional in any weather conditions where a phone or Garmin would work

CONSTRAINTS



Technology Constraints:

Real time traffic and terrain data depends on the availability and accuracy of external data sources



User Adaptation:

Some users might have a steep learning curve with advanced features like route customization and elevation data



Device Compatibility:

App performance may vary across older devices



ENGINEERING STANDARDS



ISO/IEC 25010:2011

This standard defines the **quality characteristics** for software, which could be important for ensuring that the app meets:

Essential quality aspects like usability, reliability, performance efficiency, and security.



ISO 9241-210:2010

This standard focuses on **user experience (UX) and ergonomics**, which is relevant to ensure that the app provides:

A good user interface and experience., particularly for our route planning, navigation, and settings.



ISO 19116:2004

Since our cycling app will use GPS and map-based services, this standard helps ensure that geospatial data is used effectively.

It provides best practices for handling, processing, and displaying location-based data.

CONCLUSION

- **Our app prioritizes cyclist safety, convenience, and personalization**
- **Next Step: Continue refining user requirements and begin development of the core features**





QUESTIONS?

