

IOWA ADVENTURE CYCLIST COURSE CREATOR

**LIGHTNING TALK 8:
ETHICS AND PROFESSIONAL
RESPONSIBILITY**

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PROJECT OVERVIEW

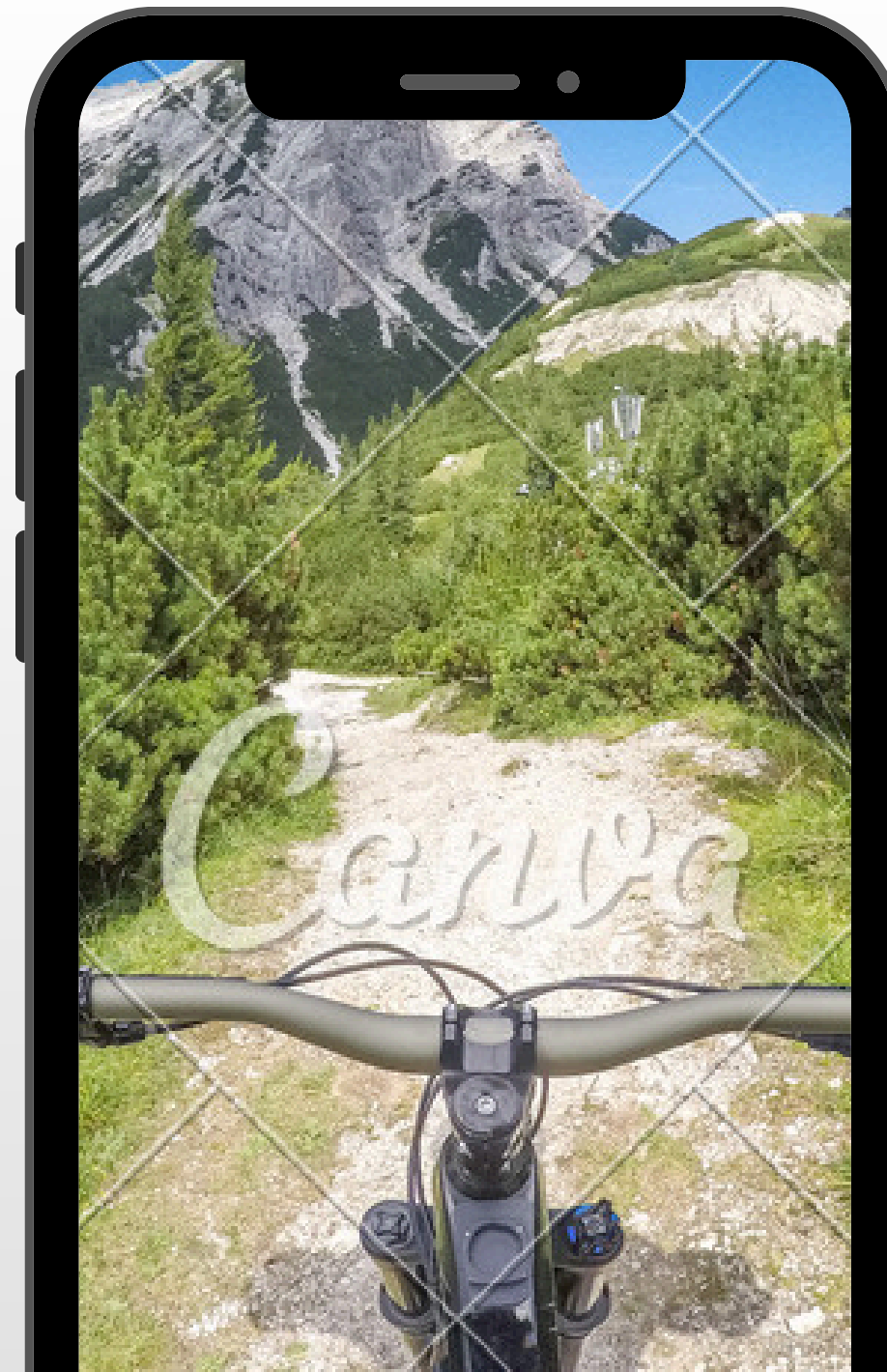
THE CREATION OF A MAPPING
APPLICATION FOR CYCLISTS THAT CAN:



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

IDEALS AREA-PERFORMING WELL

PUBLIC WELFARE



Relevance to the Project:

- Ensures our app prioritizes safety and accessibility for cyclists by integrating real-time road conditions and hazards.



Team's Approach:

- We prioritize user safety by incorporating Department of Transportation (DOT) data and providing real-time updates.
- Our user interface highlights critical alerts, such as road closures or severe weather warnings.



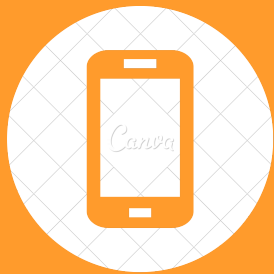
How This Upholds Ethics

- Protects user safety, a paramount ethical concern.
- Promotes equitable access by ensuring the app serves cyclists in both urban and rural areas.



IDEALS AREA-NEEDS IMPROVEMENT

HONESTY AND INTEGRITY



Relevance to the Project:

- Transparency about the limitations of GPS accuracy and DOT data is crucial to maintaining user trust.



Team's Approach:

- We include disclaimers about potential inaccuracies in route recommendations. However, this is not prominently communicated.



How This Upholds Ethics

- Add a clear "Data Limitations" section in the app interface, detailing potential GPS and data source errors.
- Enhance user feedback options to report discrepancies, improving data accuracy and accountability.



BROADER CONTEXT AREA

FOUR PRINCIPLES CHART

1 BENEFICENCE

The app promotes good by improving the quality of life for cyclists through safer, customized routes, and encouraging healthier lifestyles. It creates opportunities for both recreational and utility cycling, benefiting users and communities.

2 NONMALEFICENCE

The app minimizes harm by ensuring accurate data on road conditions and hazards, reducing risks of accidents or unsafe routes. It avoids environmental harm by promoting sustainable transportation options.

3 RESPECT FOR AUTONOMY

The app supports user autonomy by allowing full customization of routes based on preferences like terrain, distance, and traffic. It respects users' decisions by providing adaptable and non-restrictive design elements.

4 JUSTICE

The app ensures fairness by catering to diverse user groups, from beginner cyclists to advanced adventurers. It also aims to provide equitable access to resources like route planning, regardless of socioeconomic or geographical barriers.

POTENTIAL ETHICAL ISSUES

DRAWBACKS AND MITIGATION:

1 EQUITY IN ACCESS:

Ensuring rural areas have equal access to route data.

Approach: The app will rely on open-source data and community contributions to enhance coverage in rural areas. Features encouraging local cyclists to contribute route and hazard information will also help bridge the data gap.

2 PRIVACY CONCERNS:

Some users may be concerned about data collection and sharing practices, particularly regarding location and ride data.

Approach: Introduce transparent privacy settings that allow users to control data sharing and visibility. Provide clear communication on how data is used and secured.

VIRTUE

EMPATHY

EMPATHY IS ABOUT UNDERSTANDING AND PRIORITIZING THE PERSPECTIVES, NEEDS, AND EMOTIONS OF THE APP'S USERS AND STAKEHOLDERS. FOR THE CYCLING APP PROJECT, THIS VIRTUE IS ESPECIALLY CRITICAL BECAUSE CYCLING EXPERIENCES VARY WIDELY BASED ON A USER'S LOCATION, SKILL LEVEL, RESOURCES, AND PURPOSE FOR CYCLING

CONCLUSION

- In summary, our cycling app project reflects a commitment to innovation, ethical responsibility, and user-centered design. Through careful consideration, we are striving to create a solution that benefits diverse communities, minimizes harm, and ensures equitable access for all.
- By addressing challenges such as data privacy, and equity in access, we are preparing to meet the needs of cyclists from all backgrounds while maintaining high ethical standards. Looking ahead, we will continue to refine our approach, incorporate feedback, and iterate on our design to ensure the app is both functional and socially impactful.





QUESTIONS?

