MIDTERM PROJECT PROPOSAL

ISU Campus Explorer

Tuesday, September 16th

PREPARED FOR

COM S 3190 - Construction of User Interfaces
Iowa State University Computer Science Department

PREPARED BY

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Contents

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1 Introduction

We, Mekhi San and Ash Bhuiyan, are from team NM_1. We are senior-level Software Engineering majors. In COM S 3190, we are developing web user interface skills using HTML, CSS, and JavaScript. From COM S 3090, we have prior experience collaborating on frontend and backend systems in Android development. We chose this project because many new students at Iowa State struggle to navigate campus. Google Maps does not provide detailed indoor building information, so we want to create a tool to help with navigation and orientation.

2 Purpose of the proposal

The purpose of this proposal is to present our plan for developing ISU Campus Explorer, a mapping and navigation application that allows new students and visitors to explore campus more effectively. The app will feature an interactive map with clickable buildings, providing important information such as departments, services, and hours of operation. A unique feature will allow users to see photos or videos of building interiors, which will provide better orientation.

3 Goals and Objectives

Our project goals include:

- Helping new students and visitors orient themselves around campus.
- Creating a user-friendly and visually engaging interface.
- Building a scalable foundation that can expand to all ISU campus buildings.

Our project objectives include:

- Build a campus map interface with clickable building markers.
- Develop building info pages with photos and videos.
- Prototype with at least 2–3 buildings (e.g., Parks Library, Carver Hall, Memorial Union).
- Demonstrate collaboration by evenly dividing frontend and backend work.

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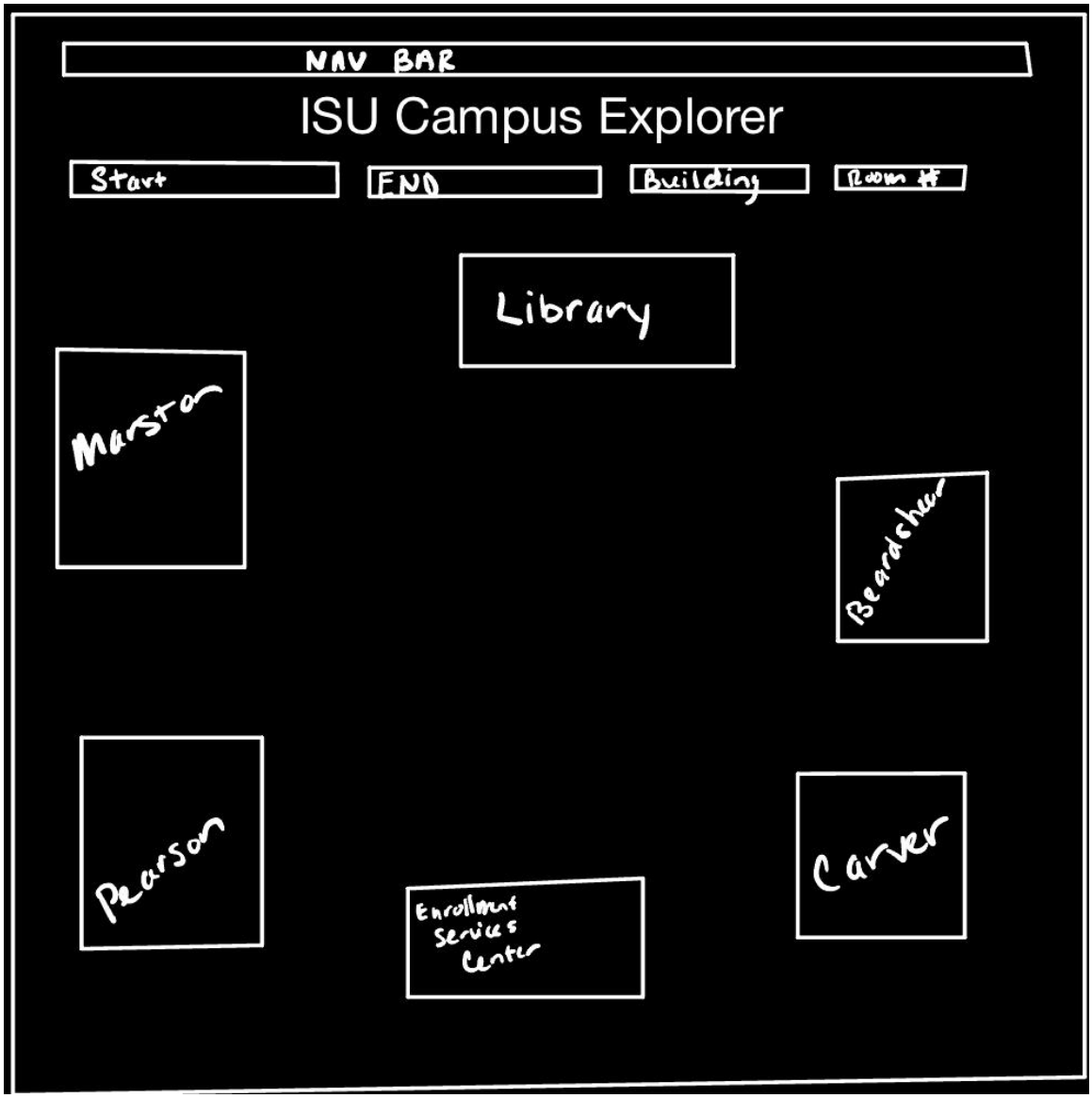
4 Project Description

Our project, ISU Campus Explorer, will combine mapping, navigation, and immersive media to improve the campus experience. The application will start with a campus map that highlights key buildings. When a user clicks on a building, an information panel will appear with details such as building name, departments inside, and service hours. In addition, users will have the option to view photos or videos of the interior to better prepare for visiting.

4.1 Example Wireframe: Campus Map Page



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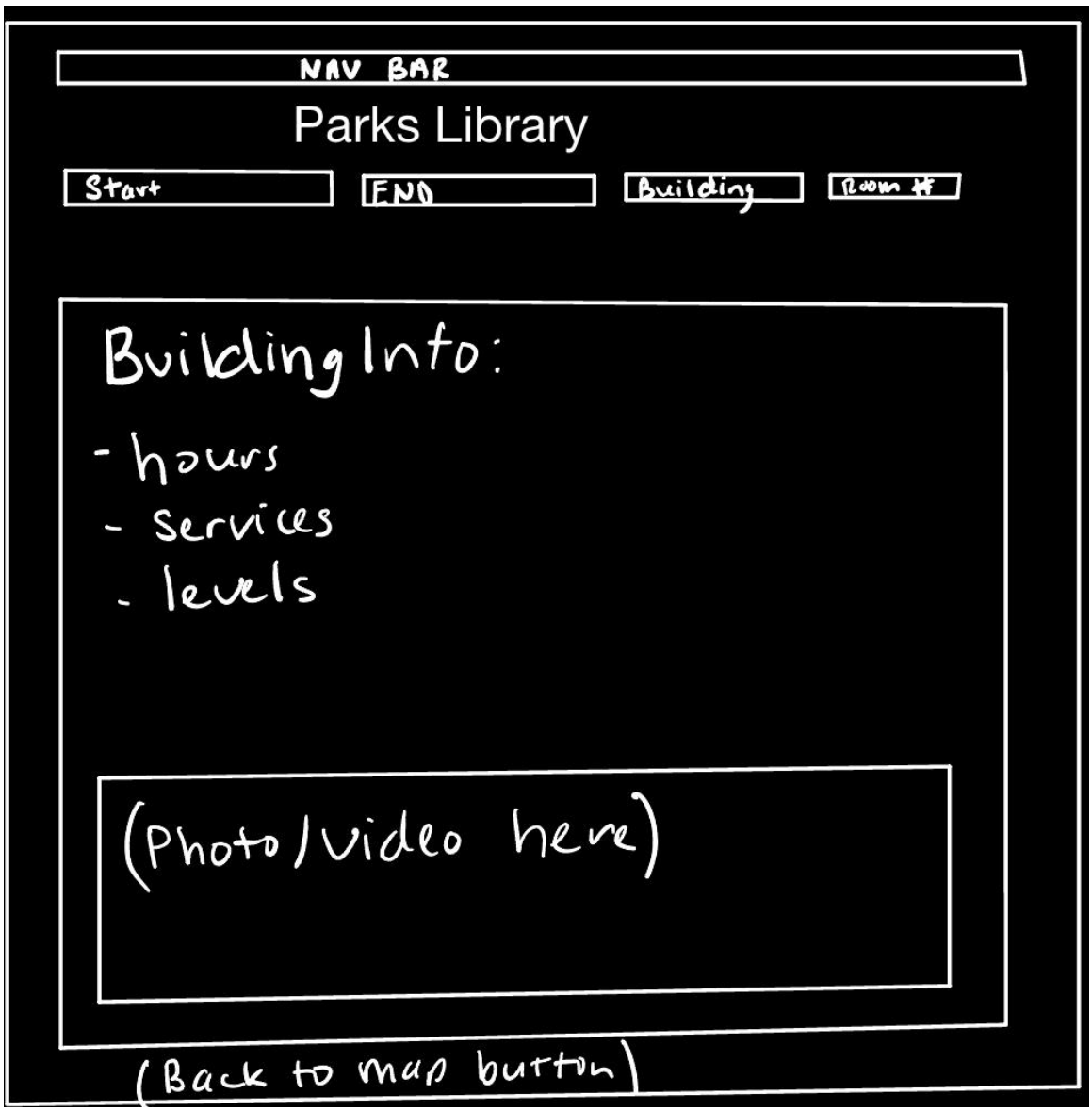
4.2 Example Wireframe: Building Detail Page



4.3 Description of Visuals

The Campus Map wireframe will show how users interact with ISU's digital map. The Building Detail wireframe will show building-specific information panels with media. These visual elements clarify the app's interface and intended functionality.

5 Resources

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Technologies and Tools:

• Google Maps API or Leaflet.js, possibly MyState app for the interactive map.

• Firebase or Google Cloud for storing building images and videos.

• HTML, CSS, JavaScript for frontend development.

• GitLab for version control and task management.

• Excalidraw for creating wireframes.

Team Organization & Timeline:

• Mekhi San: Frontend/UI development, wireframes.

• Ash Bhuiyan: Backend/data integration, media storage.

• Estimated 3–4 hours per week per team member.

6 Future Work

In the future, ISU Campus Explorer could expand to include full navigation paths between buildings, coverage of all academic and residential halls, and immersive 360° video tours. Augmented Reality (AR) navigation may also be explored as a final extension.

7 Final Comments

This proposal outlines our vision for ISU Campus Explorer. By combining navigation and immersive previews, the app will be a valuable tool for new students and visitors. We expect to learn more about UI design, backend integration, and collaborative teamwork. For questions, we can be contacted at:

- Mekhi San (sanm20@iastate.edu)
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