Part 1: Team Contract Draft

Team Members & Contact Information

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Faculty Advisor: Dr. Will Hawkins

Meeting Schedule
We will have regular meetings once a week on Friday at 5pm to review progress, assign tasks, and address issues. The meetings will normally be held face-to-face during after-class hours, with additional Zoom/Teams meetings scheduled if needed. For the periods between the regular meetings, we will utilize email and messaging software daily to allow for ongoing progress.

Project Focus (Draft)
Our senior design project is **Sub4You**, a Sublease Finder App powered by an AI agent. The goal of the app is to simplify the process of finding short-term housing for students and young professionals by connecting them with available subleases. The AI agent will help users filter listings based on preferences, automate communication with landlords or roommates, and predict suitable housing matches. This project integrates AI, data management, and software engineering, aiming to solve a common and practical problem faced by students.

Roles (Initial Draft)

Frontend & Data Lead (Rakshana):
Responsible for designing the frontend UI and overall app layout, ensuring the app is user-friendly and mobile-friendly. Additionally, Rakshana will manage data collection and preprocessing for listings, including cleaning and organizing data for AI training. She will collaborate with the AI Lead to ensure smooth integration of the backend AI features with the frontend.

AI & Backend Lead (Akarsh):
Responsible for developing the AI agent, including training models, building recommendation algorithms, and ensuring accurate predictions. Akarsh will also handle the backend systems that connect the AI agent to the app, including APIs and database management. He will work closely with the Frontend & Data Lead to integrate AI functionality seamlessly into the app.

Approval
(Insert advisor's email approval or signature here.)

Part 2: Individual Capstone Assessment

Introduction

For our senior design project, we have chosen to design a Sublease Finder Application, which will act as a smart platform to bridge two groups of individuals: those searching for short-term housing rental, and those looking for subleasing individuals. As a Computer Science major with a focus in artificial intelligence and mobile development, I see this project as a wonderful opportunity to connect real-world problem solving and technology development. Our intention is to develop a project that helps find housing through smart matching algorithms and mobile applications, with a greater initiative in developing a technology-based cloud system. Our goal is to implement artificial intelligence-based recommendation systems, and geo-analysis algorithms to help make the difficult and complex search for affordable subleasing housing more streamlined by gathering data from current websites. For me personally, it is an opportunity to explore my passions, experience creating an application, and to develop a socially responsible solution for students and employees in an increasingly mobile workforce. This project is well aligned within my academic pathway, as well as potentially a future professional interest to work in a technology field, that brings together socially responsible engagement when convenience meets social connection.

Influence of College Curriculum

My coursework at the University of Cincinnati has been instrumental in shaping my technical foundation and problem-solving mindset. *Software Engineering* taught me how to analyze user needs, design modular architectures, and apply intelligent algorithms to real-world applications. Additionally, *Data Structures* and *Cloud Computing* provided me with the skills to build secure, high-performance backends using SQL, cloud storage, and authentication frameworks—essential elements of our sublease finder app. Collectively, these experiences have prepared me to contribute to our project through AI-driven feature design, cloud integration, and user-centric development.

Influence of Co-op Experiences

My three co-op experiences significantly deepened my understanding of how technology translates into impactful business solutions. As a **Software Engineering Intern at Elevance Health**, I helped develop retrieval-augmented generation (RAG) models and automated data pipelines using Python and spaCy, improving accuracy and efficiency—skills that I can apply to the recommendation logic of our app. At **Bosch Automotive Steering**, I used SQL and Power BI dashboards to deliver data-driven insights, teaching me how to convert raw data into actionable decisions. My **Application Development Internship at Regal Rexnord** introduced me to mobile app development in SwiftUI and MVVM, directly relevant to building the iOS version of our Sublease Finder platform. These roles strengthened my technical versatility, problem-solving under Agile environments, and ability to balance user experience with backend reliability. They also enhanced my teamwork and communication skills, which are critical for collaborating effectively within our capstone team.

Motivation for the Project

What excites me most about this project is its potential to address a real and relatable problem that affects many students and young professionals. Having personally observed how challenging

it can be to find or list subleases during transitions, I am motivated to build a solution that saves time and reduces uncertainty for users. I find inspiration in the idea of creating a product that merges AI intelligence with human needs—transforming a tedious search process into a smooth, personalized experience. My team and I share a common vision of not just building another housing app but developing a trustworthy and intelligent platform that improves people's daily lives. This motivation drives me to approach the project with innovation, empathy, and attention to detail. By integrating my AI and mobile development background, I hope to make the system adaptive, secure, and scalable.

Preliminary Approach and Self-Evaluation

Our preliminary approach will follow Agile development practices, starting with defining user personas, gathering requirements, and designing wireframes for both web and mobile platforms. I plan to lead the AI and backend integration, ensuring that the recommendation system effectively pairs compatible users based on preferences, budget, and availability. We aim to use cloud services such as Firebase or Supabase for authentication, storage, and real-time data syncing. My personal goal is to ensure that our app achieves a balance between technical robustness and user simplicity. I will evaluate my contributions based on measurable outcomes—system reliability, recommendation accuracy, and positive user feedback during testing. I'll consider my work successful when the application performs seamlessly, our users find value in it, and the system is deployable with minimal friction. Ultimately, I aim to contribute to a project that my team and I can be proud of, both technically and socially.