UniHome

**Senior Design Team Contract**

University of Cincinnati

College of Education, Criminal Justice and Human Services

School of Information Technology

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Justin Tracy

Alexander Walters

Ian Hegarty

Table of Contents

[Intent 3](#_Toc80532662)

[Project Name: 4](#_Toc80532663)

[Problem Statement: 4](#_Toc80532664)

[Solution: 4](#_Toc80532665)

[Contact Information: 4](#_Toc80532666)

[Sponsor Information (if applicable): 5](#_Toc80532667)

[Project Source: 5](#_Toc80532668)

[Project Objectives/Goals: 5](#_Toc80532669)

[Team Members and Responsibilities: 5](#_Toc80532670)

[Project Scope: 6](#_Toc80532671)

[Quick Project Timeline: 6](#_Toc80532672)

[Technologies Used: 6](#_Toc80532673)

[Ethical Considerations: 6](#_Toc80532674)

[Team Rules: 6](#_Toc80532675)

[Team Signatures: 7](#_Toc80532676)

# **Intent**

The following contract was written and agreed upon by Tony Dang, Justin Tracy, Alexander Walters, and Ian Hegarty. The contract provides expectations, objectives, and results for developing the UniHome application.

The contract is effective for all team members participating in IT 5001/5002 through the 2022-2023 academic year.

**Senior Design Team Contract**

**2022-2023**

**Project Name:** UniHome

# **Project Summary:**

Our project is a web application that allows university students to connect to landlords around the university campus to rent out properties for off campus housing. The application will enable landlords to have their property posted and visible to potential student tenants. These students will also be able to connect to each other to create roommate groups by filling out questionnaires to find students with matching university majors, personalities, lifestyles, and more so that they can find the perfect roommates. Past tenants can also leave a review on their experience renting the property for future potential tenants.

# **Problem Statement:** Between juggling classes, work, and social lives, finding off campus housing can be a relatively daunting task for UC students. Information on housing, renting and finding roommates can be hard to find and scattered across multiple platforms which can lead to misunderstanding, frustration and confusion. Students need an all-encompassing solution for finding housing, roommates, and write/read reviews of the landlords.

# **Solution:**

Our solution is a web application that allows landlords to have their property posted as available for rent and will be tailored to university students. Each property listing will consist of all the information about the property that a student might need to know, for example, monthly costs, what utilities are covered, neighbors, neighborhood, pet policies, contact information, etc. This will ensure that there is as much clarity as possible between the landlord and the possible tenants who are university students looking for off campus housing. The application will also have search features specific to university students such as distance to campus and shuttle locations. The past tenants will be able to review the property and landlord. This is so that students know what to expect from their landlords as far as security deposits, repairs, moving process, etc. UniHome will also have a grouping feature that will allow students to connect and match with potential roommates for properties.

# **Contact Information:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Team Member** | **Degree + Track**  **Track N/A for BSCyber** | **Email** | **Phone Number** |
| Tony Dang | BSIT – Software Dev | dangdq@mail.uc.edu | 513-208-3016 |
| Justin Tracy | BSIT – Software Dev | tracyjn@mail.uc.edu | 440-453-4766 |
| Alexander Walters | BSIT – Cyber Security | walteak@mail.uc.edu | 216-470-5048 |
| Ian Hegarty | BSIT – Software Dev | hegartim@mail.uc.edu | 330-704-7856 |

# **Project Source:**

We took inspiration from both the increase of students coming to campus who need housing, and personal experience of the troubles in finding housing. Trying to deal with this stress on top of everything else in a college student’s life can be very challenging, and this is one way we can help reduce stress for students.

# **Project Objectives/Goals:**

Our application aims to help students expand the range of properties to choose from and increase transparency between landlords and tenants through more detailed and upfront information about the property. This application will also help landlords reach out to potential tenants directly and avoid unrented properties. Finally, we aim to help students who may not have a full group to reach out and find other students who are interested in becoming roommates.

# **Team Members and Responsibilities:**

Software Developer: Tony Dang

* Responsible for technical architecture
* Responsible for setup and maintenance of server environment.
* Responsible for full stack development

Software Developer: Justin Tracy

* Responsible for technical architecture
* Responsible for setup and maintenance of server environment.
* Responsible for full stack development

Software Developer: Ian Hegarty

* Responsible for technical architecture
* Responsible for setup and maintenance of server environment.
* Responsible for full stack development

Security Analyst: Alexander Walters

* Responsible for analyzing design and potential security weaknesses
* Responsible for ensuring the use of secure coding practices
* Responsible for addressing encryption needs
* Responsible for addressing ethical and privacy concerns

# **Project Scope:**

* Every user will be able to create a profile that they can login with and view/post content in the appropriate places
* Landlords should be able to upload their properties to the application
  + They will be able to add pictures and a description of the property
  + They will also be able to add all the properties policies including monthly costs, what utilities are covered, neighbors, neighborhood, parking, pet policies, contact information, etc.
* Students looking for off-campus housing options will be able to view all properties posted on the application
  + Students will be able to narrow their search down with different categories unique to students such as proximity to campus and UC shuttle stops
  + If interested in the property, the student will be able to reach out to the landlord to get more details and schedule a tour
* Past tenants will be able to review the property and landlords
  + This will ensure that the potential renter has all the details needed to determine if the property is suited right for them
* Students seeking roommates will be able to talk to other students seeking off campus housing in a forum and form roommate groups
  + The grouping feature will include a questionnaire to best match roommates including questions about lifestyles and expectations (ex: “Do you plan on having guests over frequently?” and “What time should quiet hours start?”)
  + Once matched in a group, anyone in the group can search for potential properties and share it with everyone else in the group

# **Quick Project Timeline:**

A rough estimate of your project timeline in a tabular format with the following fields:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task # | Task Name | Duration | Start Date | End Date |
| 1 | Finish Brainstorming / Begin Development | 1 week | September 26th | October 3rd |
| 2 | Create UI Design | 1 week | October 3rd | October 10th |
| 3 | Develop Authentication Strategy | 1 week | October 10th | October 17th |
| 4 | Host Application on Cloud Provider / Develop deployment strategy | 1 week | October 17th | October 24th |
| 5 | Gather real data | 3 weeks | October 31st | November 28th |
| 6 | Test run app / gather outside feedback | 1 week | November 28th | December 5th |
| 7 | Develop housing search / review features | 24 weeks | October 24th | April 12th |
| 7b | Develop roommate grouping feature | 24 weeks | October 24th | April 12th |
| 8 | Finish Paper | Ongoing throughout development | September 19th | April 12th |
| 9 | IT Expo Presentation | 1 day | April 12th | April 12th |

# **Technologies Used:**

Front-end architecture: ReactJS

Back-end architecture: NodeJS

Database: PostgreSQL

Source control, project management: GitHub

UI Prototyping: InVision

# **Ethical Considerations:**

* User data needs to be protected with secure passwords
* Landlords are at risk of having their reputation tarnished through unfair reviews.
* There is a sensitive nature to the data we are handling
  + Landlords and Student information
  + Property information and photos
  + Roommate groups at specific locations
* Fraudulent accounts could be created to make fake reviews spinning landlords in positive or negative light.
* Possibility for false information to be placed on listings intentionally or accidentally

# **Team Rules:**

1. Each team member should ensure that what is assigned to them is completed to the best of their ability and make sure project milestones are met. If any issue arises, that team member should be responsible for notifying the team within 24 hours.
2. Follow Scrum framework with daily 30 minutes stand-up meetings to report on progress and bi-weekly sprint meeting to report on what we have completed last sprint and what to do next sprint.
3. If a group member must miss a meeting, he/she will notify the team and reschedule that meeting to a later date when all the team members are available.
4. All team members will review the oral presentation and final report.
5. All team members will respect the opinions and ideas of each team member, other students, and faculty.
6. Plagiarism will not be tolerated. Any team member that plagiarizes will be subject to university policies and a team meeting will be called.
7. If a team member goes missing, then it is up to everyone in the group to divide the missing person’s work up and make sure that the project is still finished on time.

# **Team Signatures:**

Signature: **Tony Dang** Signature: **Ian Hegarty**

Date: 9/18/2022 Date: 9/18/2022

**Tony Dang** **Ian Hegarty**

Software Developer Software Developer

Signature: **Alexander Walters** Signature: Justin Tracy

Date: 9/18/2022 Date: 9/18/2022

**Alexander Walters** **Justin Tracy**

Security Analyst Software Developer

**Project Advisor Signature:**

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Title