



Home Together Canada

Requirements Document

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1 Introduction

1.1 Project Information

Home sharing refers to an arrangement where two or more unrelated individuals occupy a home together. Home Together Canada is a non-profit organization that aims to connect individuals who are looking to home share as well as connect individuals to home services and local businesses.

There are three main user groups: website admins, members (individuals looking to home share) and businesses (home sharing services and local businesses). The website aims to involve and connect many different stakeholders in the home sharing industry and ensure that they each benefit through using Home Together Canada. The website will be available for free to all users. Businesses directly related to home sharing can create free listings to promote their services. In addition, local businesses (that are not associated with home sharing) can post listings for a small fee in the classifieds section of the website. Lastly, the website will be simple and have an intuitive design in order to maximize usability across diverse demographics.

1.2 Purpose of Requirements Document

The Home Together Canada requirements document outlines all necessary elements required by the client. The requirements document includes the must have, should have, could have and won't have features of the project in addition to the various user groups of the product. This document was created during the planning/initialization phase of the project.

The intended audience of the Home Together Canada requirements document is the project client, project sponsor and project team members.

1.3 Objectives

The objectives of the Home Together Canada website are as follows:

1. Connect individuals who are looking to share a home together.
2. Connect individuals to home services and local businesses.

1.4 Project Terminology

In this document we will be using the following terminology to refer to the different users and components of our project. Please note the following list of terms were compiled in collaboration with Home Together Canada Groups A and B, in addition the client also provided some definitions.

Profile: restricted to use for personal accounts (refers to information listed in [Appendix B](#))

Listing: Any posting made by a business or advertiser in any category

- Classified Listing: A paid listing posted by a business that is not related to home sharing
- Service Listing: A free listing posted by a business that is directly related to home sharing

User: Anyone who uses the website

- Non-registered User: Someone who uses the website but who is not registered
- Registered User: Someone who uses the website and has made an account
 - Member: A personal account with a profile
 - Business: A business account that can post classified and service listings
 - Admin: A HomeTogether volunteer who is managing the site

2 User Groups

This website will be for individuals of all ages, all incomes, and all demographics that wish to pursue any type of shared living experience in Canada. In addition, all providers of sharing services and shared housing opportunities in Canada (whether they are for profit or not-for-profit) are also welcome to join HomeTogetherCanada.ca

2.1 Administrators

In order to moderate the website, there will be at least one admin. This will likely be a Home Together Canada employee. They can interact with the website as a regular user and they also have additional admin capabilities. These capabilities include the ability to approve business accounts and their listings, export user data, and ban nefarious users.

2.2 Members

There are two primary types of users visiting the site: registered members and non-registered users.

Unregistered users will be any person or business who does not have an account. These users will be able to use the map and filter features to search and view service and classified listings. If they are interested in connecting with other members and viewing other members' profiles, they must register and create an account.

After an unregistered user has created an account through the registration system, they will have the ability to login using their unique username and password. These registered users are referred to as members and they have the same access as non-registered users with the addition of being able to search for other members and report any suspicious activity on the site. Members can view other members' profiles and message other members through the in-site messaging system.

2.3 Businesses & Services

Lastly, local businesses, groups, services and organizations can create a business account on the Home Together websites. Businesses, groups and services that are directly related to home sharing will have the ability to create listings in the appropriate service category for free. Businesses, groups and services that are not related to home sharing can create a listing in the appropriate classified category for a small fee payable through PayPal.

3 Scope

3.1 Functional Requirements based on Milestone

3.1.1 Milestone 1 - Video Demo

Page	Features
Home	<ul style="list-style-type: none"> - When first entering the site, all users are welcomed with the home page that has a greeting message - From the home page, users can navigate to the login page using a login button - From the home page, users can navigate to the registration page using a registration button - From the home page, users who are logged in can navigate to their accounts by clicking on the account button - Members and businesses will each have their own website header <ul style="list-style-type: none"> - Members will be a "Connect with Members" tab - Business will not have a "Connect with Members" tab"
User Registration	<ul style="list-style-type: none"> - Unregistered users can register as a member. This process involves: <ul style="list-style-type: none"> - Completing a basic registration form (refer to Appendix A) - Completing a profile form (refer to Appendix B) - Unregistered users can register as a business (without admin verification) by completing the business basic registration information form (refer to Appendix C)
User Login	<ul style="list-style-type: none"> - Members can login through the login portal using their username and password - Businesses can login through the login portal using their username and password
Account Summary	<ul style="list-style-type: none"> - Registered users can view a summary of their account <ul style="list-style-type: none"> - For Members this will include their basic registration information and profile - For businesses this will include their basic registration information

3.1.2 Milestone 2 - Video Demo

Page	Features
Home Page + About Us + FAQ	<ul style="list-style-type: none"> - From the home page, users can navigate to the the FAQ and About Us pages to read about Home Together Canada and common questions about home sharing - Admins can navigate to the admin portal by clicking on the admin button in the header
User Login	<ul style="list-style-type: none"> - From the login page, registered users can recover their password using email - Admins can login through the login portal using their username and password
User Registration	<ul style="list-style-type: none"> - During the member registration process, members must complete the housemate search criteria form which gathers search criteria for other members they would like to live (refer to Appendix D). These fields will be saved to their account
Search	<ul style="list-style-type: none"> - Members can search for other members using the search filters outlined in Appendix D <ul style="list-style-type: none"> - The search filters set by the member in their housemates search criteria form in their account summary will be the default search filters when searching for other members - On the search page, members can modify their housemates search criteria that is populated from their account summary. Any changes to the filters made from the search page will not be persisted and not saved to their account - When members search for other members, they can only view other members profile pages (Appendix B) and they will not be able to see the information collected in the basic registration form (Appendix C) - Unregistered users that attempt to navigate to the Member Search page will be not be able to view any members and will be prompted to register or login - All users (registered and unregistered) can search for service listings and classifieds on the Search Services page and Search Classifieds pages respectively. On both of these pages, users can search by specifying a location using a map and by selecting the predefined categories and subcategories (refer to Appendix E & Appendix G) for which they would like to see listings

	<ul style="list-style-type: none"> - Businesses that do not have a location (ie. offer nationwide services) will always be shown regardless of location
Admin Portal	<ul style="list-style-type: none"> - An admin must approve service and classified listings (with the exception of listings posted by members in services under the <i>Members with Homes to Share</i> category) before they go live on the site and are viewable by both unregistered and registered users - Admins can reject service and classified listings. The rejected listing will never be visible for users - Admins can view all listings from the admin portal and can delete a listing. The deleted listing will no longer be visible to users
Listings	<ul style="list-style-type: none"> - Businesses can create a service listing and classified listing. When creating the service or classified listing, the business will select which category the listing belongs to and which subcategories are relevant. The categories and their respective subcategories can be found in Appendix E & Appendix G. Additionally the business will fill out the fields that are required to post a listing in their selected category (refer to Appendix F & Appendix H) - Members can only create a service listing in the <i>Members with Homes to Share</i> category. They will select the relevant subcategories for the listing and fill out the required fields. These fields can be found in Appendix F
Account Summary	<ul style="list-style-type: none"> - Members can view and edit their information account summary page. They can edit the fields referenced in Appendix A, Appendix B and Appendix D - Members can edit their housemate search criteria form. All edits will be persisted to their account - Members can deactivate their account from their profile page. When deactivating their account they must select a reason why from options listed in Appendix I - Members can delete their account from their profile page - Businesses can view and edit their basic registration information (Appendix C) from their account summary page - Businesses can delete their account from their account summary page

3.1.3 Milestone 3 - Final Product

Page	Features
Admin Portal	<ul style="list-style-type: none"> - Admins can approve newly registered business accounts - Admins can search for a registered user by username <ul style="list-style-type: none"> - From the search results, the admin is able to select a user and ban that user - From the search results, the admin is able to select a member and make that member an admin - Admins can export all data for members, businesses, and listings to an excel spreadsheet
Messaging System	<ul style="list-style-type: none"> - Members can send and receive messages through the in-app messaging system - All messages are anonymous and will only display the members usernames - Members can view their messages through their inbox - An indicator will be displayed to alert members of a new message
Account Summary	<ul style="list-style-type: none"> - Businesses can view all their active and pending listings from their account summary page - Businesses can delete their active listings from their account summary page - Members can view all their service listings from their account summary page - Members can delete their active listings from their account summary page

3.1.4 Additional Features (Time permitting)

* **Bolded features will receive the first attention**

Page	Features
User Registration	<ul style="list-style-type: none"> - During the registration process, members and businesses will have to verify themselves via email before their account can be successfully created. The email will contain a link and when the user clicks on the link, their account will be activated and they continue with normal usage of the site - When a member updates their username from their profile page, if they are a couple, their linked username in their partner's profile page will also be updated

Login Page	<ul style="list-style-type: none"> - A "remember me" box to remember the user's session and do not prompt them to re-login on a regular basis
Listings	<ul style="list-style-type: none"> - Members can only rate businesses - Members can only bookmark other members to view later - Members can edit their listings
Admin Portal	<ul style="list-style-type: none"> - Admins can post announcements to the home page through the admin portal - Admins can reject a classified listing and attach a comment to them
Account Summary	<ul style="list-style-type: none"> - Members can view their bookmarked listings on their account summary
Search	<ul style="list-style-type: none"> - Initialized map based on user's location using their IP address
Messaging System	<ul style="list-style-type: none"> - Members receive an email notification when a member sends them an in-app message
Error Page	<ul style="list-style-type: none"> - Depending on Error (404/500 etc.), appropriate message will be displayed

3.2 Priority of Requirements

**Note: The ordering of each requirement within each section denotes its priority
(ex. requirement 1 has the highest priority)**

3.2.1 Must Have Features

1. Home page
2. Member registration
3. Business registration
4. Member login
5. Business login
6. Password recovery via email
7. Admin login
8. Service listing creation by businesses
9. Classified listing creation by businesses
10. Service listing creation by members
11. Search and view service listings with basic filtering and map
12. Search and view classified listings with basic filtering and map
13. Search and view other members with basic filtering and map

14. Admin portal
 - a. Approve or reject business accounts and business listings
 - b. Ban users
 - c. Delete listings
 - d. Export user data to file
15. Paypal integration for listing payments
16. Members can edit their account information through account summary page
17. Businesses can edit their account information through account summary page
18. Members and businesses can delete their listings from their account summary page
19. Dynamic header for each user
 - a. Based on user's privileges
20. Members can message each other through the in-app messaging system

3.2.2 Should Have Features

1. Members can give businesses and other members ratings
2. Members can bookmark listings and other members' profiles
3. Members can view all of their bookmarks
4. Members can block other members from messaging them
5. Other users report/flagging posts or users to admin
6. Admin announcement on the home page
7. About Us and FAQ pages

3.2.3 Could Have Features

1. A custom look and colour palette on the website
2. A custom favicon for the website
3. A welcoming screen with a walkthrough tutorial
4. Email verification upon account creation for members and businesses
5. If a username is updated and that user is linked to their partner's Home Together account, their username in their partner's profile will also be updated
6. "Remember me" box to remember user's session
7. Admin can view a data summary based off of their member search in the admin portal
8. Initialize map with user's location using their IP address
9. Members receive an email notification when they receive a message on Home Together
10. Customized error pages (ex. User not found, listing not found)

3.2.4 Won't Have Feature (Out of Scope)

1. No statistics will be collected, specifically user activity i.e most popular page and how long each user spend on the website
2. Members will not message businesses and vice-versa
3. Members and business accounts will not have the ability to message admins and vice-versa
4. Users will not be able to recover their password via phone numbers
5. Businesses will not be able to create a draft version of their listings
6. Members will not be able to create a classified listings
7. Members will not be able to create a service listing except for *members with homes to share*
8. There will be no support for 2 factor authentication
9. When a member deactivate's their account and selects "Have found people to share with", they will not have the ability to supply the username(s) of their new housemate(s)
10. Businesses will not receive notifications for their advertisement listings when they're close to expiring
11. There will be no feature for admin to mark a business who has a record of appropriate listings to have their future listings to be automatically approved
12. Admins will not be notified in any way when there is a pending item in their portal such pending listings or business accounts
13. Businesses will not be able to edit their existing listings
14. The scalability of the website will depend on the cloud service provider that the client chooses after the project is completed, thus, during development, load testing the website will not be done
15. Business accounts will not be able to rate anything on the website
16. Business accounts will not be able to bookmark anything on the website
17. Members will not be able to rate other members
18. Admins will not be able to review (approve/decline) member account listings
19. When a business edits their basic registration information, the admin does not need to approve the changes
20. The website will not have a "super admin" account.
21. The project will not be hosted on a Canadian server during development and testing
22. The project members will not be responsible to deliver the website on a Canadian server
 - a. The client will be responsible to set up the website on a Canadian server
23. We will not be developing the website to fit mobile and tablet screen sizes

3.3 Non-Functional Requirements

Requirement	Features	Measurable
Security	<ul style="list-style-type: none"> - Passwords will be required to meet current standards - Password handling will be encrypted - User info not passed in URL - Payment process is legal 	<ul style="list-style-type: none"> - Passwords will be validated within form/field and input handling will be tested - Password Hashing - Use of “POST” form method to process sensitive data - Payment process complies with Canadian payment rules and regulations
Maintainability	<ul style="list-style-type: none"> - Website will be able to be maintained after this project by most up-to-date web developers 	<ul style="list-style-type: none"> - Languages and technologies used will be well known (such as javascript) and readily available (such as open source testing software)
Portability/ Compatibility	<ul style="list-style-type: none"> - Website will work on multiple browsers and screen sizes 	<ul style="list-style-type: none"> - Website will be operational on all modern browsers and most common screen sizes (with the exception of internet explorer and tablet/mobile screens)
Performance	<ul style="list-style-type: none"> - Website filtered search results will load and display in a reasonable timeframe 	<ul style="list-style-type: none"> - Less than 5 second load times maximum
Usability	<ul style="list-style-type: none"> - Website will be welcoming to new users 	<ul style="list-style-type: none"> - A walkthrough of how to use the site's features will be available to new users

3.4 Environmental Constraints

This project has the following environmental constraints:

- For maintainability purposes, our tech stack is written in Javascript and we will limited to using 3rd party integrations that can integrate with Javascript
- There is a time constraint of April 30th due to the end of the school year
- There is a time constraint of an expected ~8-10 hours spent on the project per team member per week
- Our team consists of 4 developers
- Our team is interacting with each other predominantly at a distance
- This project does not have a budget of any kind, so we are limited to free services and resources
 - The project can not be hosted on an enterprise cloud server such as AWS, Azure or Google cloud given the budget
- The website product is for a client, and thus regular meetings are necessary to ensure client satisfaction
- The software will be for a broad audience, therefore ensuring intuitive usage is paramount
- The software must integrate with PayPal services

4 Deliverables

4.1 Project Timeline

Milestone	Date
Video Demo #1	November 25th, 2020
Video Demo #2	February 24th, 2021
Final Product	April 14th, 2021*

* subject to change depending on course final date

4.2 Project Output

This product of this project will be a website containing all the features outlined in the requirement section above. The project members will not be responsible to deliver the website on a server, instead, the client will use the project final report to set up the website on their desired cloud server provider.

5 Test Strategy

5.1 Overview

Our goal is to make a high-quality, robust product. As such, we are endeavouring to follow best testing practices. We will be testing our web application at all levels of development, while recognizing that with our limited resources (time, people) we must maintain a feasible strategy.

5.2 Process

Firstly, all team members will be contributing to the development of our shared body of code. As a feature(new method, or class, etc) is completed, the assignee must include a “complete” battery of unit tests in order to open a pull request. Code will not be approved without unit tests for the new feature. A code reviewer is required in order to merge. The review process includes checking out the feature branch, running all existing and new unit tests to ensure they pass, followed by looking at the code and tests to consider if any fringe cases are missing.

Furthermore, the reviewer will run the code locally and do a preliminary smoke test to ensure that the new feature and any connected features are functional.

The unit tests will also allow us to perform regression testing. A PR with a new feature will not be merged until all existing tests pass. This will be configured using CI/CD.

As multiple components are connected, the developer most familiar with the given process will write selective integration tests. Prioritization goes to an initial simple test of expected behaviour followed by tests for more common or serious problems. Continuous integration will be set up and run using software such as TravisCS which offers free open source automation of tests as well as plugins for our tech stack.

As our group approaches a milestone, we will all adjust priorities towards manual system testing, where we will follow the guidelines of:

<https://www.softwaretestinghelp.com/web-application-testing/>

The above link addresses many of our core functionalities:

- Functionality (links, field validation, forms, database, cookies, acceptance criteria)
- Usability (HCI)
- Interface testing – team testing/validation of integration tests (front end to server, server to DB especially)
- CSS – the website will be tested on multiple browsers

All developers will be participating in the system testing stage, and will be verifying the acceptance criteria again and system functionality.

Demonstrations and acceptance tests will be performed for our client as needed as well by the other students of COSC 499 during the peer testing sessions. Ideally, all demonstrations and user acceptance testing sessions will have a list of known bugs or limitations beforehand such that we are not misrepresented by a known error mid-presentation and that bugs we are not aware of can be found.

5.3 Software

- JEST (for unit and snapshot testing)
- Lighthouse Chrome Dev Tools
- TravisCI- support for Node.js and many plugins as well as free to use and supported for being easy to set up

6 Data Flow Diagrams

Our DFD diagrams will follow the following legend:

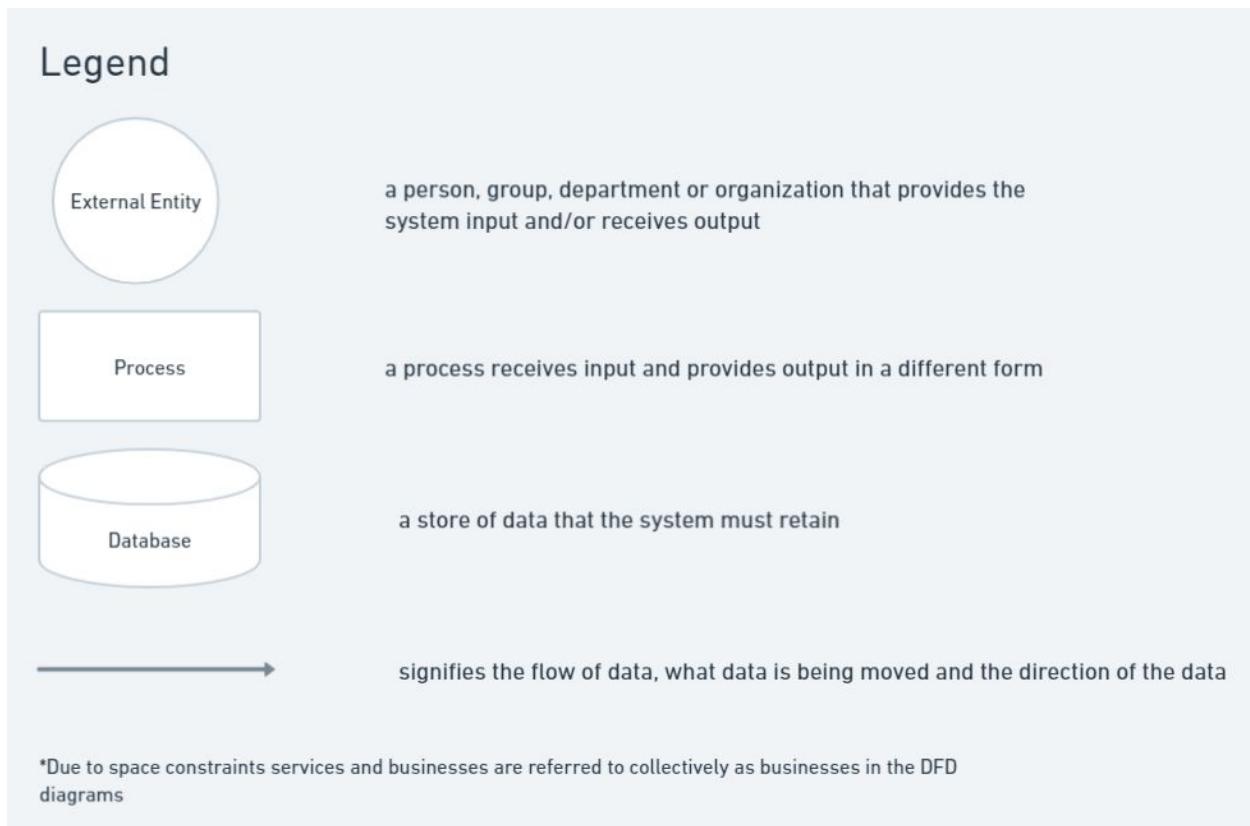


Figure 6.0 DFD legend to describe

Our DFDs can be found [here](#) (in addition to the description for each, which can be found under each respective diagram.).

7 Project Management Approach

The software development life cycle associated with this project is called [Agile](#). This software development process focuses on client feedback and iterative changes.

Some of Agile's core values include:

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

In addition, by using this approach, we will maintain the following principles:

- Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
- Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
- Working software is the primary measure of progress.
- At regular intervals, the team reflects on how to become more effective, then adjusts its behavior accordingly.

Reference: [Agile Manifesto](#)

8 Stakeholders

Client	Twila Dainard
Sponsor	Twila Dainard
Project Manager	Parsa Rajabi
Client Liaison	Alex Qin
QA Lead	Jeff Hatton
Tech Lead	Rachelle Golden
Other stakeholders	Dr. Bowen Hui Zil Huma

9 Technical Stack Selection

9.1 Selected Technical Stack - MERN

9.1.1 Description

We will be using a hybrid of the traditional MERN stack (we will be using MySQL instead of MongoDB). The MERN stack is one of the most popular stacks used today for building high-end web applications. It is composed of four parts:

- MySQL: In a traditional MERN stack a MongoDB database would be used, but for this project we will be using a MySQL database. The database will be where all data used by the website is stored. MySQL is a free database and an industry standard. A MySQL database was chosen due the nature of the data we will be storing and the relationships that exist within the data.
- Express.js: Express.js is a web application framework for Node.js. Web application frameworks are essentially software that offers a way to create and run web applications (the heavy lifting behind the scenes).
- React.js: React.js is a JavaScript library created by Facebook used for building user interfaces (the visual part of your website). The user interface commonly is composed of on-screen menus, search bars, buttons and anything the user can see and interact with. React is known for creating fast websites (minimal lag). Here are some popular websites that have been built with React:
 - [Airbnb](#)
 - [BBC](#)
 - [Facebook](#)
 - [Instagram](#)
 - [Netflix](#)
- Node.js: Node.js is the environment that has everything you need to run a program in JavaScript on a server. Inside of this environment, frameworks such as Express.js can be used.

Here is a diagram to help illustrate the relationship between the different parts of MERN

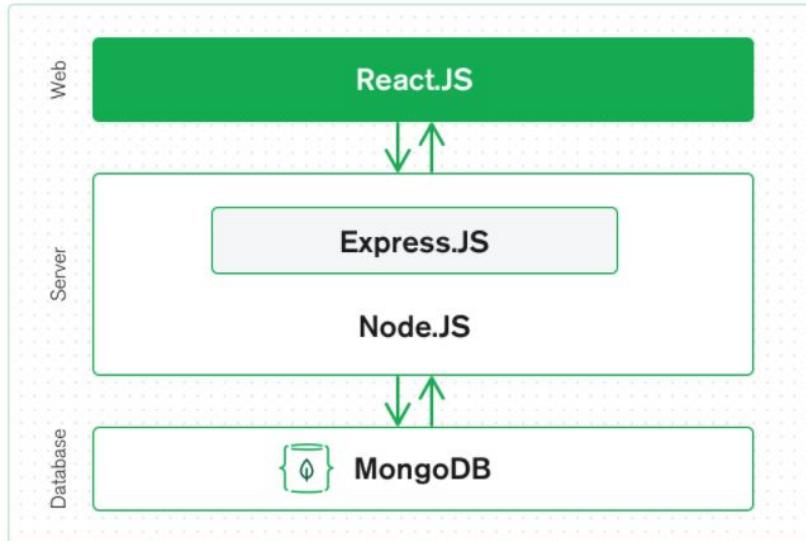


Figure 1.0 Diagram of the traditional MERN stack. Note MySQL will have the same as MongoDB in this diagram. Source: <https://www.mongodb.com/mern-stack>

9.1.2 Benefits of MERN

- Every line of code will be written in the same language - JavaScript
 - What this means for the client:
 - The website can be built quicker
 - Easier to find a developer after us that has the skills required to continue and/or maintain the project
 - What this means for us:
 - Shorter learning curve since we only need to master one language
 - Less time spent context switching since we are only working in one language
- All languages used in MERN (MySQL, Express.js, React.js, and Node.js) are free and open-source
 - What this means for the client:
 - There will be no cost associated with acquiring the languages to create the website
 - What this means for us:
 - There are large communities dedicated to providing support to developers creating applications in all of these languages
- React is able to support a wide range of solutions, thus giving MERN a very flexible architecture
 - What this means for the client:

- The website will be built to fit the client's unique needs, and not a one-size-fits all solution
- What this means for us:
 - We can easily and reliably create custom features

9.1.3 Drawbacks to MERN

- While MERN is great for developing lightweight and efficient apps, it lacks the large scale power to power giant enterprise wide applications
 - What this means for the client:
 - If the client envisions Home Together website to potentially become a giant web application used across large enterprises, this may not be the best stack

9.2 Other Potential Solutions

9.2.1 Python-Django

This stack uses the programming language Python and the web framework Django (which is also in Python). This is also a popular stack for web applications as it allows for quick development and has many tools built into it that are useful for creating web applications.

This stack is not our first choice because it can be prone to creating slow applications since it is not able to perform requests simultaneously (ie. load a picture and the text below it at the same time). For a basic website, this wouldn't be a concern, however we believe that the map feature may not be as quick or responsive because of this.

9.2.2 LAMP

The LAMP stack (Linux, Apache, MySQL and PHP) is a tried and tested web application tech stack that is arguably one of the most prevalent stacks used to this day. It is scalable, testable, and customizable with a large community of support.

While all four of us have experience developing web applications using this stack, we don't believe that this is the best stack for the Home Together web application. This stack is not as efficient as other stacks and it uses outdated technology that may potentially not be supported in the future as other newer stacks become more popular.

10 Questions & Answers

The following questions were selected as the most common questions as part of the group evaluation.

10.1 Testing

1. How do you test your react components? (storybook?) Have you picked out specific tools or libraries for your testing yet?
 - a. React components will be tested using the Jest framework and its snapshot testing feature. Snapshot testing functions like unit testing by comparing a fully rendered react component against an expected rendered snapshot artifact. Snapshots can be run with our unit tests with CI/CD.
2. When it comes to your testing did you consider using TDD or BDD when it came to testing? When it came to workflows and actions provided by Github you didn't mention using those options in your testing is there a reason why? Another way of testing your group prefers?
 - a. TDD was considered however, we decided against it due to the fact that a large portion of this project will be building out the interface for the website. While TDD can be used to develop interfaces, it only would allow us to ensure bare bones acceptance criteria is being met and we would still be required to do significant testing post development to ensure full functionality of the interface. We decided that a different approach to our testing strategy would be more efficient for our use case. We are not using GitHub actions for our CI/CD, we have decided to use TravisCI which configures nicely with Heroku (our hosting service).

10.2 Non-functional Requirements

1. How will the non functional requirements be met?
 - a. In section 3.3, all non-functional requirements have had an accompanying 'measurable' deliverable which we will use to evaluate and ensure that each requirement is met.

10.3 Database

1. Why was mysql decided upon?
 - a. After considering the data that will go into the database and the relationships that exist within this data, we decided on using a relational database. Additionally, considering that we are using technologies new to us, using a database model that is familiar to us will help ground our development.
2. Without any budget, how are you guys going to get a server to run the app? I assume you do not plan on using a school server for commercial applications.
 - a. Yes, the website will not be hosted on a school server. Instead, we will be using [Heroku's free student plan](#) to host the website during development and testing. This cloud service is free to use and allows us to maintain a running version of our application at all times. We did consider other providers such as amazon's AWS and Google's Google Cloud however those enterprise services are expensive to use and maintain for our client.

10.4 Features

10.4.1 User Export

1. For the user groups, it was mentioned that admins will be able to “export” users. Can further clarification be provided for what this would entail?
 - a. Admins are able to “export” users means that the website will have the ability to export all basic registration information from member and business accounts and all of the listings as a file. Ideally, this file will be in an excel format as it will give the client the option of using excel's math functions to analyze the data further. Given the tight deadline of this project, the exported data will not be clean and may require the client to hire someone externally to prepare the data for analysis.

10.4.2 Messaging

1. What are the benefits of messaging people within the app? Would it not be easier to just link an email or other external social media options?
 - a. The benefits of messaging people within our website:
 - Instead of getting singular notifications on their email, it will be more convenient for users to view all their messages at the same time in a central location
 - We protect our users' privacy by allowing users to remain anonymous to one another until they choose not to be. Anonymity is maintained by not sharing personal information such as their name, email etc. Instead only their username will be visible
 - Users will be able to directly message each other to discuss their home sharing expectations. Since both users will initially be anonymous, this will create a welcome environment to discuss sensitive topics such as religion

10.4.3 Admin

1. Will there be a system to moderate ads? Is that part of the maintenance of the app, or is that the Client's responsibility?
 - a. Yes, the admins of the website i.e the client, will be responsible to approve or decline the advertisement listings. This feature will be implemented in the admin portal of the website and will allow admins to approve/decline or delete listings as needed. It is important to note that the website will not have an automatic way of approving or decline listings.

10.4.4 Other

1. What maps service will be used, since there is no project budget?
 - a. We will be using the free Google Maps API as it covers the basic needs for filtering by location for our project. By using this API, we may have the ability to implement a heatmap system as a way of indicating which areas are popular to live in. Although the heat map feature is tentative, we believe Google Maps will have the ability to make our website look clean, easy to use while meeting out project requirements.

2. Will other users be able to see the personal data of other users that they make available? For example, will users be able to show/hide certain things from their profiles?
 - a. Users cannot see the personal data of the other users. Maintaining user's privacy will be one of our main objectives. To ensure user information is kept safe, we will be implementing a messaging feature that will allow members to anonymously message each other to discuss their home sharing situation rather than emailing each other.
3. Will there be matchmaking for users and businesses?
 - a. There will be no matchmaking for users and businesses. The range of matching services needed to provide for such a large and diverse number are varied, and have only begun to be created. No single entity can provide for the needs of all. By remaining non-competitive, the maximum numbers needed to make it viable for others to create these varied services can be maintained. By maintaining these maximum numbers, Home Together Canada will be able to aid in everyone's success and ultimately in the success of those wishing to share living in whatever way they choose.
4. Will the search function provide any filter for users to filter out the houses they are not interested in?
 - a. Yes, the search function will provide the filter for the users to filter out the houses they are not interested in. We have different search filters for searching members, services and advertisements.
 - **Searching members:** filtered by their personal preferences (ex. gender, maximum monthly budget, status, religious, pet friendly or not, smoking friendly or not, etc.)
 - **Searching services:** filtered by categories provided by the client (ex. Shared & Community Living Initiatives, Sharing Facilitation, Matching & Educational Services, Governmental Supports and Services, etc.) We also specify different subcategories inside each category to allow our user to choose from.
 - **Searching classifieds:** Similarly like searching services, the client has provided categories for this section (ex. Rentals, House & Yard Service, Individual & Group Services, Legal, Sales & Insurance agencies, etc.) We also specify different subcategories inside each category to allow our user to choose from.

5. How is this different from other listing sites as roomster?
 - a. Home Together Canada came into being because a small group of volunteers understood that two fundamental requirements must be made available for the sharing of homes to become a viable mainstream housing option.
 - i. There must be a maximum number of individuals maintained and available to be found by each other for individuals to be successful at finding others with similar values and interests. Home Together provides this basic requirement.
 - ii. Most individuals want and need services to help them set up and succeed at creating a shared home. To fill this need Home Together Canada provides complete and free listings to ALL Canadian sharing services, agencies, housing opportunities and businesses. This ensures they can be found and accessed immediately by individuals and in turn ensures existing and new service providers have immediate exposure to those they wish to serve.
 6. How are you going to deal with payment?
 - a. As an environmental constraint, our client requested it be kept simple and use PayPal. We may need to configure some aspects ourselves to allow for payment pending approval, however payments themselves will all be handled using PayPal api integrations.

10.5 Tech Stack

1. Could you expand on the reasons why you chose not to go with Python and LAMP for the tech stack? And in what ways they differ from the tech stack that you chose?
 - a. With regards to the LAMP stack, we decided to not go with this stack mainly because PHP is known for security issues and is an older technology. While it is “tried and tested” it could be more difficult for our client to find someone to take over the project after us as newer web development technologies are becoming increasingly more predominant
 - b. With regards to the Python - Django stack, Django handles only one request at a time. This normally would not be an issue for such a basic website, but because we are implementing a search with map filtering, we were concerned that Django would hinder the speed that the website could deliver results to the user. In order to improve performance, it would take significantly more work by the developer



- c. Ultimately we chose the stack that we did since it would be easier to hire someone with the skill set to work with the MERN stack (as opposed to LAMP) and our stack would require less effort to achieve higher performance (relative to Python-Django).

11 Approval Signatures

The undersigned acknowledge they have reviewed the project charter and authorize the **Home Together Canada** project. Changes to this project charter will be coordinated with and approved by the undersigned or their designated representatives.

A handwritten signature in black ink, appearing to read "Twila Dainard".

Twila Dainard,
Project Client/Sponsor

A handwritten signature in black ink, appearing to read "P. Rajabi".

Parsa Rajabi,
Project Manager

Appendices

Appendix A - Basic Member Registration

- Date of registration
- First name & Last name
- Year of birth
- Phone number, current address, mailing address, and email address
- Sign in username & password

Appendix B - Member Profile Information

- Gender
- Status
- Maximum Monthly Budget
- Religious or not
- Number of people open to living with
- Smoking friendly or not
- Pet friendly or not
- Areas interested in living

Appendix C - Business Registration Information

- Date of registration
- Business name
- Contact person's name & phone number
- Sign in username & password
- Business phone number,
- physical address (to be displayed on map)
- Nation-wide (YES or NO)
- Mailing address
- Email address
- Business or group Logo
- Business's website

Appendix D - Member Search Criteria

- Minimum age
- Maximum age
- Gender
- Status
- Number of people open to living with

- Is religious belief important?
- Is diet important?
- Pet friendly or not
- Smoking friendly or not
- Health or mobility issues
- Maximum Monthly Budget
- Areas interested in living

Appendix E - Service Listing Categories and Subcategories

Members with homes to share

- City
- Town/Village
- Rural
- Country/Remote
- Other

Shared & Community Living Initiatives

- Cohousing Groups & Communities
- Cooperatives
- Communal Living
- Eco villages
- Intergenerational Living
- Shared Living First Step Homes
- Other

Sharing Facilitation, Matching & Educational Services

- Facilitated Group Meet ups & Get Together
- Facilitated Senior Meet ups & Get Together
- Single Parent Meet ups & Get Together
- Member Initiated Meet ups & Get together
- Home Share Contract and Agreement Writing: workshops, webinars and Seminars
- Home Share Matching Services
- Senior/Student matching services
- Home Share Negotiation Services
- Home Share Conflict Resolution Services
- Online Sharing Workshops
- How to Create a Shared Home: Workshops, Webinars or Seminars
- Understanding insurance when sharing a home, vehicle or other: workshops, webinars or Seminars

- Other

Governmental Supports and Services

- Housing First Shared Living Services
- Low Income Shared Living Services
- Senior Home Assistance & Health Care Services in a shared Home
- Special Needs Home Share Services
- Other

Appendix F - Required Fields for Service Listing Categories

Note: Fields that are ***italicized and bolded*** are what the users have to provide while creating the listing. The remaining field will be auto-populated using the business account information collected during the registration process.

Members with Homes to Share

- ***Descriptive Title***
- ***General Location***
- ***Short Description***
- ***Full description***
- ***Home share monthly cost***
- ***Utilities included***
- ***Number of bedrooms available in home***
- ***Number of bathrooms in house***
- ***Pet friendly***
- ***Smoking***
- ***Photos***

Shared & Community Living Initiatives

- Name of housing group or organization
- Logo
- ***Descriptive title***
- ***Short Description***
- Website
- ***Contact name***
- ***Description***
- ***Units for sale***
- ***Units for rent***
- Location (this is the location that will show up on the map)

Sharing Facilitation, Matching & Educational Services

- Logo
- Name of Company
- Email
- **Title**
- **Description**
- **Pictures (max of 6)**
- **Rates and fees**
- Location (this is the location that will show up on the map)

Governmental Supports and Services

- Logo
- Name of Agency
- **Descriptive Ad Title**
- **Short Description**
- **Contact person**
- Phone number with ability to add extension if applicable
- Email
- Website
- **Description of applicable services offered**
- Location (this is the location that will show up on the map)

Appendix G - Classified Listing Categories and Subcategories

Rentals

- House
- Partial house / suite up or down
- Duplex / triplex
- Apartment
- Condo/townhouse
- Rural rental opportunity
- Other

House & Yard Services

- Cleaning Carpet
- Cleaning House
- Cleaning Window
- Electrical
- Handyman & Home Maintenance / Repair
- Plumbing

- Yard Work & Yard Maintenance
- Gardening
- Other

Legal, Sales & Insurance agencies

- Legalities of multi-ownership
- Multiple ownership sales /purchasing
- Multi-Tenant/Shared Home Insurance
- Multi-User vehicle insurance
- Other

Classes, Clubs & Events

- Classes & Lessons: ie. Art, Music, Computer, Cooking, Language etc.
- Events and Activities: ie. Paint-night, Art Show, Wine tasting, Concert, etc.
- Exercise Classes & Groups: ie. Yoga, Pilates, walking, running, biking etc.
- Groups & Clubs: ie. Computer, Bird Watching, book club, Singing etc.
- Other

Appendix H -Required Fields for Classified Listing Categories

Note: Fields that are ***italicized and bolded*** are what the users have to provide while creating the listing. The remaining field will be auto-populated using the business account information collected during the registration process.

Rentals

- **Title**
- **Short Description**
- Logo
- Business or Contact Name
- **Description**
- **Price**
- **# of bedrooms**
- **# of bathrooms**
- **Furnished**
- **Pet friendly**
- **Smoking**
- **Photos**
- Location (shown on map)

House & Yard Services

- Logo

- Name of Company
- **Descriptive title**
- **Short description**
- **Description**
- Phone
- Email
- Website
- **Pictures**
- **Rates and Fees**
- Location (shown on map)

Legal, Sales & Insurance agencies

- Logo
- Name of Company
- **Descriptive title**
- **Short description**
- **Description**
- Phone
- Email
- Website
- **Pictures**
- **Rates and Fees**
- Location

Classes, Clubs & Events

- Logo
- Name of Company or Person
- **Descriptive title**
- **Short description**
- **Description**
- **Contact name**
- Contact phone
- Email
- Website
- **Pictures**
- **Event dates and times**
- **Rates and Fees**
- **Location (shown on map)**

Appendix I - Member Deactivation Choices

- Have found people to share with, am not able to find people
- Will be away for a while
- Have changed my mind. I do not want to share, other
- Other