

# Software Requirements Specifications for Quarters

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## Revision History

Date	Comments
October 9, 2015	Created first draft.

## Template

This document makes use of the Volere Template for all of its organization.

# **1 Project Drivers**

## **1.1 The Purpose of the Project**

### **1.1.1 Project Background**

Communication, the idea of exchanging information between one party to another one is an important aspect of people's everyday lives. With the introduction of Internet and cellular devices people's capacity to communicate has vastly increased, however this information hardly centralized. Landlords and their tenants commonly communicate via email or text messages, but a response is not guaranteed or the reply is hard to retrace. This lack of centralized information may introduce discrepancies between the two parties and hardships upon getting documents and other vital data.

Developing a new software platform to serve as an intermediate between landlords and tenants as a centralized hub of information will improve the quality of communication and create a more functional living environment for the occupants.

### **1.1.2 Project Goal**

This platform is designed to handle information between landlords and their tenants, as well as between other tenants. It will efficiently and systemically handle requests from both parties and give a detailed status of the household.

## **1.2 The Client, the Customer, and Other Stakeholders**

### **1.2.1 The Client**

N/A

### **1.2.2 The Customer**

This platform is targeted at tenants, and landlords as they will be the primary users of the software. With this implementation, tenants will be able to communicate efficiently with each other and their landlord. This target audience will require an easy to learn service that is robust enough to handle any cases that occur.

### 1.2.3 Other Stakeholders

There are an abundant of other stakeholders than can provide valuable insight towards the product.

These people/organizations include:

- Business analyst can collect the potential data, and complete data analyse on it.
- Plumbers, and electricians can also provide information directly to solving maintenance issues in the house.
- Legal experts can protect the users and developers from unlawful acts.
- Developers are required to create and test the platform.
- Marketing Experts can provide beneficial tactics on how to advertise.

## 1.3 Users of the Product

There are two key users that will be using this platform where these users are critical to the product, thus the requirements generated is heavily influenced by tenants and landlords.

Tenants are responsible for the following actions:

1. communicate information to other tenants when needed
2. to complete the chores assigned to them
3. report issues in the house via the ticketing system
4. be on time with payments
5. ensure the rules outlined for the house are followed

Landlord are responsible for the following actions:

1. communicate information in regards to the house to the tenants
2. actively engage in discussion questions
3. diligently completing maintenance requests
4. be adequately available when issues arise

## **2 Project Constraints**

### **2.1 Mandated Constraints**

#### **Solution Constraints**

Description: Landlords and tenants shall communicate through a discussion board.

Rationale: Landlords and tenants will not need to communicate via email, text message, or phone.

Fit criterion: All communications conducted via quarters discussion board will be instant and accessible by all members of the group.

Description: Property concerns will be brought to the attention of the landlord by issuing a maintenance ticket.

Rationale: Tenants will not email, text, or phone their landlord in order to inform them about property related issues.

Fit criterion: Tenants will have the option to pay rent/bills through paypal via the payment portal.

Description: Tenants will be able to make payments through PayPal

Rationale: Landlords will be able to offer a payment method other than post-dated cheques.

Fit criterion: Landlords receive rent/utility payments on time through PayPal from tenants who have agreed to use the service.

#### **Implementation Environment of the Current System**

- See off-the-shelf software and collaborative applications
- Server: Intel i3-4430 running Ubuntu Server

#### **Partner or Collaborative Applications**

- Facebook Login: Provides users with the option to sign up via Facebook
- Google Sign-In: Provides users with the option to sign up via Google

- PayPal Payments: Provides users with the options to make payments via PayPal

### **Off-the-Shelf Software**

- MySQL
- ExpressJS
- AngularJS
- NodeJS

### **Anticipated Workplace Environment**

- Home: Website must display properly on desktop and laptop computers
- Mobile: Website must display properly on mobile browsers

### **Schedule Constraints**

- Proof of Concept Demonstration, November 16-27
- Revision 0 Demonstration, February 1-12
- Final Demonstration, Exam Period

### **Budget Constraints**

N/A

### **Enterprise Constraints**

N/A

## **2.2 Naming Conventions and Terminology**

### **Glossary of All Terms**

- Landlord: A person who owns or runs a boarding house, inn, or similar establishment
- Tenant: A person who occupies land or property rented from a landlord



## 2.3 Relevant Facts and Assumptions

### Relevant Facts

- Pay-Pay is a secure method of making online payments.
- Facebook Login is a secure form of account management.
- Google Sign-In is a secure form of account management.

### Assumptions

- It is assumed that both landlords and tenants will be capable of using web applications for communication, planning, and payments.

## 3 Functional Requirements

[this section probs needs to be completed as a group —CC]

### 3.1 The Scope of the Work

#### 3.1.1 The Current Situation

There is currently no existing software platform that attempts to simplify and document communication between landlords and tenants. A web application is needed to serve as a centralized management solution that will benefit both types of users. The web application will include document storage, in-app payment, a calendar, instant messaging, and discussion boards.

### 3.1.2 The Context of the Work

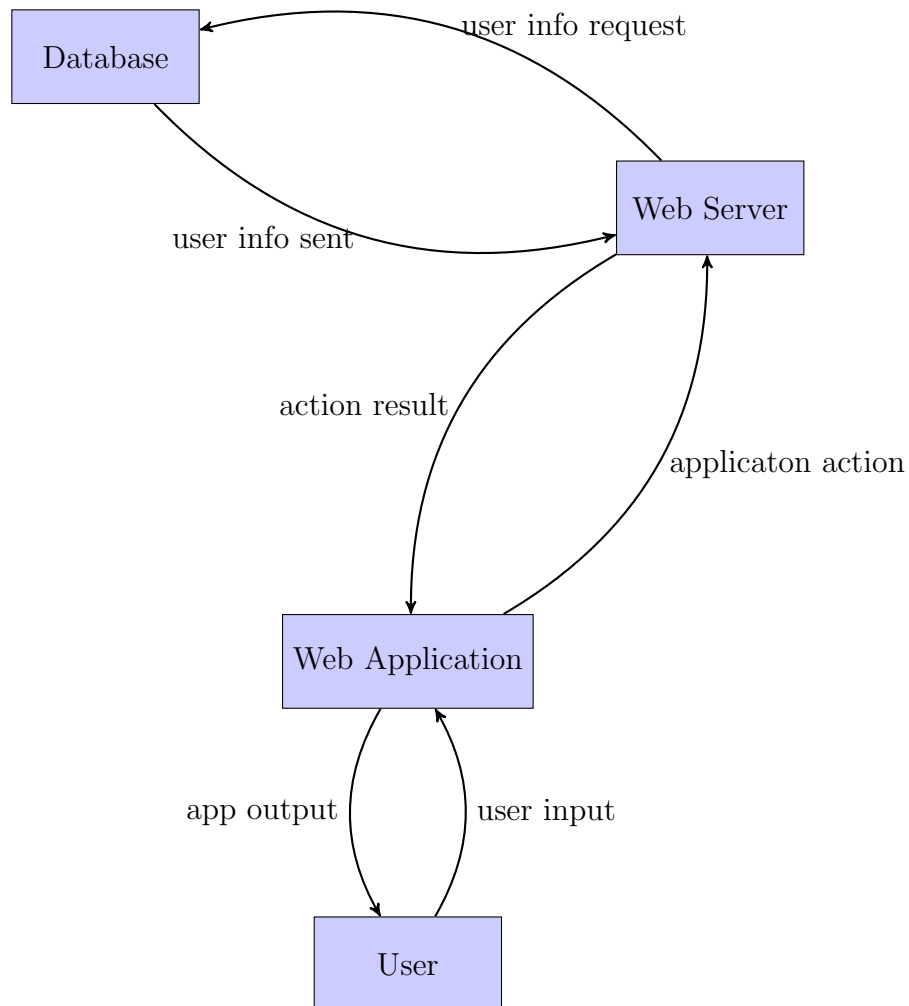


Figure 1: Work Context Diagram

Event Name	Input and Output	Summary
1. User requests	IN vs OUT	Description.
2. asdf	asdf	asdf

Table 1: Work Partitioning

### 3.1.3 Work Partitioning

## 3.2 Business Data Model and Data Dictionary

### 3.2.1 Business Data Model

### 3.2.2 Data Dictionary

## 3.3 The Scope of the Product

### 3.3.1 Product Boundary

### 3.3.2 Product Use Case Table

## 3.4 Functional Requirements

### 3.4.1 Functional Requirements

Requirement #: 1                      Requirement Type: 9                      Event/Use Case:  
Description:  
Rationale:  
Fit Criterion:  
Customer Satisfaction:      Customer Dissatisfaction:

# 4 Nonfunctional Requirements

## 4.1 Look and Feel Requirements

### 4.1.1 Appearance Requirements

The interface of the web application shall be attractive and intuitive for an adult audience. A sampling of potential users shall, without prompting or enticement, create a login within one week of their first encounter with the application.

### **4.1.2 Style Requirements**

The web application shall appear professional and secure. After their first encounter with the application, 70 percent of potential users shall agree they feel they can trust the application.

## **4.2 Usability and Humanity Requirements**

### **4.2.1 Ease of Use Requirements**

The web application shall be easy for young adults and adults to use. The application shall be used by users with no prior training. A casual user should be able to use the application with the same ease of a frequent user. The application shall make the users want to use it. A test panel of current landlords and their tenants shall be able to successfully create a user account and use the application's functions without guidance within their first encounter.

### **4.2.2 Personalization and Internationalization Requirements**

The web application shall be available in the English language (EN-US), and use Canadian currency (CAD \$) and the metric system. The interface and functions of the web application shall be personalized for the type of user, either landlord or tenant.

### **4.2.3 Learning Requirements**

The web application shall be easy for young adults and adults to learn. The web application shall be constructed so that all of its functionality is apparent upon first encountering it. A brief tour of the web application shall be presented as an option to first time visitors of the site. A test panel of current landlords and their tenants shall be able to successfully create a user account and use the application's functions productively without guidance within their first encounter.

### **4.2.4 Understandability and Politeness Requirements**

The web application shall use symbols, icons, and words that are naturally understandable by the user community.

#### **4.2.5 Accessibility Requirements**

The web application shall rely on the web browser's accessibility features to make it available to the disabled.

### **4.3 Performance Requirements**

#### **4.3.1 Speed and Latency Requirements**

The speed of the web application depends on the speed of the user's operating system and internet connection.

#### **4.3.2 Safety-Critical Requirements**

N/A.

#### **4.3.3 Precision or Accuracy Requirements**

The web application shall keep accurate time by working in UTC. All monetary amounts shall be accurate to two decimal places.

#### **4.3.4 Reliability and Availability Requirements**

The web application shall be available for use 24 hours per day, 365 days per year.

#### **4.3.5 Robustness or Fault-Tolerance Requirements**

The web application shall successfully display an error message to the user should an incorrect username/password combination be input, or in the event of one of its features crashing.

#### **4.3.6 Capacity Requirements**

The web application shall cater to [x number —CC] simultaneous users.

#### **4.3.7 Scalability or Extensibility Requirements**

The web application shall be capable of expanding to nearby cities within two years of its launch.

### **4.3.8 Longevity Requirements**

The web application shall be expected to operate as long as there exists a housing rental market.

## **4.4 Operational and Environmental Requirements**

### **4.4.1 Expected Physical Environment**

The web application shall be used by users who may be distracted because they are simultaneously completing and managing several other tasks.

### **4.4.2 Requirements for Interfacing with Adjacent Systems**

The web application shall work on the last four releases of the five most popular web browsers. The web application shall interface with PayPal to handle monetary transactions between users. The web application shall interface with Google Sign-In and Facebook Login to enable users to login with pre-existing social media accounts. The details of the communication standards/protocols will be outlined in the Design Document after implementation is completed.

### **4.4.3 Productization Requirements**

The web application shall be accessible on the World Wide Web.

### **4.4.4 Release Requirements**

The initial release of the web application will be in February 2016. The final release will be in April 2016.

## **4.5 Maintainability and Support Requirements**

### **4.5.1 Maintenance Requirements**

The web application shall be able to be maintained by developers who are not the original developers.

### **4.5.2 Supportability Requirements**

N/A.

### **4.5.3 Adaptability Requirements**

The web application is expected to run on web browsers on mobile phones, tablets, laptops and desktop computers.

## **4.6 Security Requirements**

### **4.6.1 Access Requirements**

Only the user has access to edit their own personal stored information and choose what information of their profile is visible to other users. Users have access to view other users' profiles. Only landlords can [add —CC]. Only tenants can [add —CC]. Only the landlords and tenants belonging to the same property can view the property's group and add content to the property's group.

### **4.6.2 Integrity Requirements**

The web application shall prevent incorrect data from being introduced and protect itself from unwanted attacks by unauthorized users. The web application shall have a back-up of its stored data on an alternate server.

### **4.6.3 Privacy Requirements**

The web application shall make its users aware of its information practices before collecting data from them. The web application shall use a third-party interface to store credit card information and perform secure monetary transactions between users.

### **4.6.4 Audit Requirements**

N/A.

### **4.6.5 Immunity Requirements**

N/A.

## **4.7 Cultural and Political Requirements**

### **4.7.1 Cultural Requirements**

N/A.

## **4.8 Legal Requirements**

### **4.8.1 Compliance Requirements**

N/A.

### **4.8.2 Standards Requirements**

N/A.

## **5 Project Issues**

### **5.1 Open Issues**

- Size of the user group is uncertain, may need to upgrade hardware in the future to accommodate more user
- User interface has yet to be designed
- Browser compatibility

### **5.2 Off the Shelf Solutions**

#### **5.2.1 Ready-Made Products**

No ready-made products exist with the same functionalities.

#### **5.2.2 Reusable Components**

Facebook and Google accounts can be used for sign in and connecting with landlord and other tenants

#### **5.2.3 Products That Can Be Copied**

Not applicable



## **5.3 New Problems**

### **5.3.1 Effects on the Current Environment**

Not applicable

### **5.3.2 Effects on the Installed Systems**

Not applicable

### **5.3.3 Potential User Problems**

Not applicable

### **5.3.4 Limitations in the anticipated Implementation environment That May Inhibit the New Product**

Old browsers are not compatible with the system

### **5.3.5 Follow-Up Problems**

- Conflicts between tenants or between tenants and landlord
- Legal issue that may involve us

## **5.4 Tasks**

### **5.4.1 Project Planning**

- present requirement document to supervisor for feedbacks
- development prototype for demo purpose

### **5.4.2 Planning of the Development Phases**

- design the database
- split application into different modules for assign one module to each member

## **5.5 Migration to New Product**

N/A

### **5.5.1 Requirements for Migration to the New Product**

N/A

### **5.5.2 Data That has to be Modified or Translated for the New System**

N/A

## **5.6 Risks**

- Not able to get enough user
- Certain features may not be compatible with the hardware
- Project becomes too complicated and not able to meet deadlines

## **5.7 Costs**

- May have get a domain if we want to do some external testing
- Approximately 7 months of development time

## **5.8 User Documentation and Training**

### **5.8.1 User Documentation Requirements**

- A help guide will be included
- FAQ section with the ability to ask new questions
- May include tutorial for each module when first visited

### **5.8.2 Training Requirements**

No training is required for the user. When they visit a new module, they will be given a brief description of the module and what actions can be performed. If they have further question, they can post them in the FAQ section.

## **5.9 Waiting Room**

The next release will have a separate module for housing advertisements

## **5.10 Ideas for Solutions**

- MySQL for relational database
- node.js for server side
- angular and express for front end