Software Requirements Specification

for

Real Estate Broker Website

Version 1.0 approved

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Revision History

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# Introduction

## Purpose

The purpose of this software requirement specification is to capture requirements for developing a website which takes the place of real estate offices in order to sell houses, Markets, real estates and manage REs. trading over a small- to medium.

Customers can offer their homes for sale or view house offers. When a customer chooses a house to buy and the owner accepts his order, he can contact with owner and an appointment is agreed upon for the owner to sign Contracts in the real estate registry.

This document is to be read by the developer and the concerned staff. They might review the document to learn about the project and to understand the requirements.

RE. tycoon have to become accustomed to the various product features in order to show REs. that he wants to sell, rent and mortgage.

Testers need to understand the system features to develop meaningful test cases and give useful feedback to the developers.

The hardware developers need to know the requirements of the device they need to build. The RE. tycoon also needs to understand the external interface requirements to sell the product.

The hardware developers.

## Scope

The RETS System is intended to manage REs. trading over a small- to medium area such as

Homs, it is not intended to support REs. trading over wide area.

The System includes the hardware and software to support the day-to-day operation of the RE office.

It provides services to customers, dealers and administrator, these services have been designed to help customers to find suitable RE and help dealers to show their offers

The system provides manage REs trading remotely via the internet and the goal is to provide

a system that is responsive, efficient, reliable, easy to use and easy to maintain and provide a good user experience for all users

## Definitions, acronyms, abbreviations

Definitions for some of the common terms used

throughout this document are:

* Administrator — a person responsible for administering the system
* Tycoon — a person who owns the RE office
* Customer — a person who want to browse the site and search for his demand, or a person who want to sell an RE
* IIS ------ internet information server
* DBMS ----- Database Management System
* Member ----- a person who is registered in the system

**The following acronyms and abbreviations are used in this**

**document:**

RE: Real Estate

RET: Real Estate Trading

## Reference

## Overview

The remainder of this document describes the system

requirements for the RET management system.

The next section contains a description of the overall system,

assumptions, dependencies, constraints, and its intended users.

The third section on specific requirements contains a detailed

description of system requirements necessary for testing the

RET office management system. The fourth section on

metrics contains information on the function points metric

that was chosen to gauge the size of the system relative to

other systems of this type developed by our company.

# Overall Description

## Product Perspective

This RET management system is a new self-contained product also is an independent system not related or connected to any larger system.

The RET management system provides the hardware, software, and interfaces to support the various system users.

For each user type, the system will operate in a different mode:

* *Public mode – for users accessing the system via the Web to see viewed offers*
* *Private mode — for customers and dealers*
* *Administration mode — for administrators*

In each mode, a user has access to a different set of services

helping to control access to the system and maintain the

integrity of the data stored in the office databases.

**Product Perspective…**

* office owner uses a pc device which provide a hardware interface to access the system
* Web browsers running on office owner or customers’ devices provide the user interface to the system. A system access page is displayed on each PC type

and each user must enter a username and password to gain access. Depending on the user type and the PC from which the system is accessed, different services are accessible:

* + Public users have access to site and see all offers but cannot order

an offer until register at site and to become a membership

.

* + Customers have access to services such as the ability to order for

a viewed offer (Shopper case) or add and modify an order (dealer case)

* + Administrators have access to services such as the ability to allow add

a new customer and banned it, also manage dealing between office’s owner

and the person who want to buy a RE

Product Perspective …

The system also has a number of software interfaces to other software products.

These software products include the (IIS)

and (DBMS).

The IIS provides support for the web pages that make up the user interface and the DBMS hosts databases for membership and asset information and processes all

information queries generated by the system.

The communication interfaces include network connection way used by client to interconnect the system via gateway that provides access for remote users, and a firewall to restrict access to selected services.

### System Interface

System interfaces for the RET management system include interfaces of the following types:

*User interfaces* - describe how users (members, librarians, and

administrator) access and interact with the system.

*Hardware interfaces* - describe the hardware components in the

system, such as PCs, how they connect to

the system.

*Software interfaces* - describe how the software being developed

interfaces with other major software components in the system, such

as the operating system, the IIS, and the DBMS.

*Communication interfaces* - describe how the various components in

the system communicate with each other

### User Interfaces

All user interfaces are implemented in HTML format and displayed inside an Internet web browser, the graphical user interface (GUI) will be designed to be interactive and easy-to-use.

The same look-and-feel will be used for public user, customers and administrators.

### Hardware Interfaces

Hardware interface requirements for the RET management system include the following:

Office owners’, customers’ and administrator’s PCs will be connected to internet

by any available way

### Software Interfaces

The software developed for the RST management system must interoperate with several other software components in the system including:

* The operating system running on each PC
* The Internet information server running on the administrator’s PC
* The DBMS running on the administrator’s PC

### Communication Interfaces

Users could connect to internet using home telephone lines or any another way to access services provided by the RET or management system.

### Memory Constraints

To support efficient operations of the various PCs running the Microsoft Windows operating system, the following memory configurations are required for the PCs associated with each of the user types:

* Dealer’s PC — 256 MB
* Administrator’s PC — 512 MB

The larger memory size on the administrator’s PC shows that this PC

is running the IIS and the DBMS.

Also, the administrator’s PC has a much higher disk space requirement:

5 GB, and for the dealers PC it is enough to have a space about 3 GB

### Operations

The system will be accessible for all time in general, browsing is

available any time also ordering offers and adding new offers by

dealers but administrator is available to reply orders

between 8:00 AM and 6:00 PM, the system will be capable of

sustaining service with delay about 24 hours at most in processing

requests by dealers and customers.

The system will be capable of handling multiple client requests without dropping a request.

Data will be stored in databases managed by the DBMS system.

The database information will be automatically backed up once a week.

This will avoid data loss.

A procedure will be developed to provide instructions for the administrator to perform a recovery operation in the event of a failure during daytime hours.

The objective of such a procedure will be to bring the system back into normal operation within two hours.

### Site Adaption Requirements

Not Applied

## Product Functions

The RET management system will control user access and

provide services to the various user types.

The different users and the services provided for each user are:

* Public users
  + Browse all viewed offers
  + View offices’ names
  + Search for an office
* Customer
  + Browse all viewed offers
  + View offices’ names
  + Search for an office
  + Get office location
  + View list of coming events
  + Order an offer
  + Contact with dealer
* Dealers
  + Browse all viewed offers
  + View offices’ names
  + Search for an office
  + Get office location
  + Add an event
  + Add offers
* Administrator
  + Manage RETS assets
  + Generate reports
  + Accept offers
  + Accept new accounts

## User Classes and Characteristics

This RET management system is intended for small-to-medium- sized

area, people from many different educational

backgrounds will want to take advantage of the services provided by the

System

* Public users and customers should not require any special skills to access and use

the library services provided.

User interfaces for customers should be simple enough that only

the most basic training will be required. Customers should not need any

special skills to use the system.

* Dealers must have knowledge about images to be added and view type

of images to describe a good show to customers

* The administrator must be a qualified engineer knowledgeable about the Internet information server and database management systems in general.

## Constraints

### Regulatory Policies

The system will investigate all local regulatory policies.

The gateway providing access to users will comply with regulations

for the transmission of data via the Internet.

### Hardware Limitations

The different user PCs must meet the requirements specified in Table 1.

These requirements are critical to reliable and efficient use of the system.

|  |  |  |
| --- | --- | --- |
| PC | Memory | Disk Requirements |
| Administrator | 512 MB | 5 GB |
| Dealer | 256 MB | 3 GB |

### Interfaces to other applications

The RET management system will be a Windows-based

system on so dealers’ and administrators’ devices must be running

the Windows operating system.

But for customers, the system can be accessible from any operating system

In addition, The system uses two other major applications, that is, an IIS

and a DBMS.

The servers for these products are hosted on the administrator’s PC.

### Parallel Applications

The RET management system will use the client/server architecture and therefore be capable of handling multiple service requests concurrently.

Many customers may order an offer being ordered by another customer.

In these circumstances, the system will process all requests without problems.

### Audit Requirements

* Data integrity audit: This system should ensure that data entered into the system is valid, also should perform regular data integrity checks
* User activity audit: This system maintains a log of all user activity within the system.

This includes user login/logout times, actions performed by the user, and any changes made by the user.

* Access control audit:

The system should allow only authorized users to access to sensitive data.

The system should record any access attempt, including successful and unsuccessful attempts.

* Financial audit:

The system should record and trace financial records, like rent payments, Mortgage refunds, REs prices, maintenance expenses, and other financial costs. The system should provide a complete audit log of all financial transactions.

* Security audit:

The system should guarantee secure and protect data from unauthorized access or modification.

* Performance audit:

The system should maintain some of constraints including response times, system availability, and resource utilization.

### Control Functions

* User authentication and access control:

The system should provide secure user authentication and access control mechanisms to ensure that only authorized users can access some services depending on user type.

This can include methods such as password policies and two-step authentication

* Data validation: The system should validate user input
* Error Handling:

This System will provide suitable error messages and feedback to user.

* Data backup and recovery:

The system should provide data backup to ensure that data is not lost due to system failures, hardware failures, or other disasters.

### High Order Language Functions

Database management:

This RET management system uses a DBMS to manage the

databases for membership and asset information.

The system will use structured query language (SQL) to query for and update any information in the database.

Reporting and analytics: the system should provide reporting to help users

Make decisions based on data by generating and presenting data in a structured

And meaningful way

Workflow management: the system should provide workflow management features to help user manage their activities, this includes task tracking and notifications

Integration with other systems: like payment and accounting systems

### Signal Handshaking Protocols

The RET management system will use cookies to help identify users attempting to access the system via the Internet.

This will provide another level of security.

### Reliability Requirements

* The DBMS software will provide a backup capability to ensure

protection of the data in the database. In addition, the DBMS software

provides a transaction recording feature that can be used to keep

track of all transactions If a failure occurs, the transaction record can be

used to roll back to the last successful transaction so that a minimum

amount of information is lost.

* Availability: The system should be available to users for all times but requests

Sent by dealers or customers will be replied during admin worktime with 24 hours of delay at most

* Scalability: The system should be able to handle increasing amounts of data and users over time.

### Criticality of the Application

Providing a reliable and continuous service to users is one of the key requirements of the system since the system is dealing with not small quantity of people and should consider risks of financial bugs so when a failure occurs, the system will be recovered within two hours

### Safety and Security of the System

* This system should control access to a subset of the services provided to users.
* The IIS and the DBMS also help to protect data in the system.

* Authentication and Authorization: The system should provide secure user authentication and authorization mechanisms to ensure that only authorized users can access the system and its data. This can include features such as password policies, two-factor authentication, and role-based access control.
* Data Encryption: The system should use encryption to protect sensitive data, such as financial transactions or tenant information, both in transit and at rest. This can include features such as SSL/TLS encryption, AES encryption, or other encryption standards.

## Assumptions and Dependencies

* The system will run on users’ devices on the available network

So, there is no assumption for hardware

* New versions of the IIS and the DBMS will become available.
* New features will help the administrator maintain the databases, improve the response time
* The system may provide more methods for payments

## Apportioning of Requirements

System will be designed so that new features for users can be added easily, also

Data must be stored in a meaning and organized way which allow to get data and make new services easily

# Specific Requirements

## External Interface Requirements

### User Interfaces:

All user interfaces will be HTML-based and will be displayed in a web

Browser

#### Process customer Access Screens

* Validate membership screen
* Request search screen
* Request status screen
* Coming event screen
* View general information screen
* Get offices directions screen
* Connection with dealers’ screen

#### Process Dealers Access Screens

* Validate membership screen
* Request search screen
* Request status screen
* Coming event screen
* View general information screen
* Get offices directions screen
* Connection with shoppers’ screen
* Addition offers screen

#### Process Administrator Access Screens

* Manage accounts assets
* Maintain membership
* Generate reports

### Hardware Interfaces

Not Applicable

we haven’t any external hardware component, users can access the system using any suitable way.

### Software Interfaces

* Microsoft windows 7 and higher:

The administrator’s PCs will run Microsoft Windows 7 or higher version.

Users access the system with no constraints on device or system they use

* Internet Information Server (IIS), Database Management System (DBMS):

We will rent a suitable server for hosting, Therefore, this server information will be mentioned in the link that we will add when renting it.

### Communications Interfaces

Users could connect to internet using home telephone lines or any another way to access services provided by the RET or management system.

## Functions

**Software Product Features**

### Member Access

### 3.2.1.1 Purpose

The purpose of this function is to process member requests for status, process search requests, and allow members to reserve assets. Membership is validated with a comparison between the member- entered password and the password stored in the membership info store.

The store receives updates from the DBMS store.

### 3.2.1.3 Associated Functional Requirements

Validate membership: This process validates a  
member’s membership number and password. The member’s  
membership number and password are compared to the information  
in the member data store for validity.

Inputs: The inputs to this process are membership number and password  
from the member and member info from the member data store.

The member data store receives updates from the DBMS- Processing: This process accepts the membership number and password from the user and reads the corresponding member info from the member data store. If the password given by the member matches the password in the member data store then the process passes a validation message to the request status and request asset processes. If the password does not match, then no message is sent. The process also sends a login response to the member based on the outcome of the password comparison.

Outputs: The outputs of this process are a validation message and a log-  
in response. The validation message is sent to the request status and  
reserve asset processes and is used to validate requests and reservations.  
The login response is sent to the member’s terminal and indicates whether  
or not the password was successful.

### Request status :

### 3.2.2.1 Purpose

The purpose of this function is to  
generate validated status requests from members.

### 3.2.2.2 Associated Functional Requirements

Inputs: The inputs to this process are a status request message from the  
member’s terminal and a member status message from the DBMS  
member’s terminal and a member status message from the DBMS

Processing: This process accepts a status request message from a  
member and a validation request from the validate membership process  
and generates a validated status request message. The validated status  
request message is sent to the DBMS process. This process also accepts a  
member status message from the DBMS process and sends a status  
message to the member’s terminal.

Outputs: The outputs of this process are the status message that is sent  
to the member’s terminal and the validated status request message sent to  
the DBMS