Requirements Specification

JALOPY EXCHANGE PROJECT

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1 The Purpose of the Project

1.1 The User Business or Background of the Project Effort

Two Things LLC. is looking to simplify the process of buying and selling cars by creating a hub for users where they can go and do business. Currently people in the market are limited to word of mouth, newspaper classifieds and for sale signs in car windows but these options are not ideal because it greatly limits the exposure of listings to consumers and vice versa.

1.2 Goals of the Project

The goal of this project is to create a web application where car sellers can create listings and car buyers can come to search for existing listings. Having a web based solution expands seller exposure and allows buyers to easily search a broader region for listings.

2 The Client

The client for this project is Two Things LLC.

3 Users of the Product

- Administrators – full read/write access to the system.
- Registered Users - read access to system. Write access to specific content

4 Mandated Constraints

4.1 Solution Constraints

The product must be a web based solution. This allows the product to reach the largest potential customer base. The product shall be tested on the latest versions of Internet Explorer, Firefox and Google Chrome.

4.2 Schedule Constraints

Initial Presentation: December 3, 2014

Final Presentation: December 10, 2014

5 Definitions

- Listing: an entry that describes a given automobile that is on sale. A listing holds information such as the asking price, seller, automobile on sale, and eventually the buyer.
- Seller: a user who has one or more listings.
- Buyer: a user who is purchasing an automobile from the current listings.
- Administrator: a user with privileges superior to a standard user (described in further detail below)

6 Assumptions

There is no dedicated/production environment expected for this project. Developers will run the application on local/development server(s).

7 Functional Requirements

7.1 The Current Situation

This is a new process with no ties to any legacy manual/automated processes. The goal is to have users migrate from other "offline" processes (e.g. newspaper ads and word of mouth) to our online application.

The system shall comprise of Users and Administrators:

7.2 Users

- View all listings (active and closed)
- Purchase an automobile through an active listing
- Add/Delete automobiles to their account
- Create one listing per automobile they have in the system
- Close their listings prior to a purchase being made
- Edit their own user details

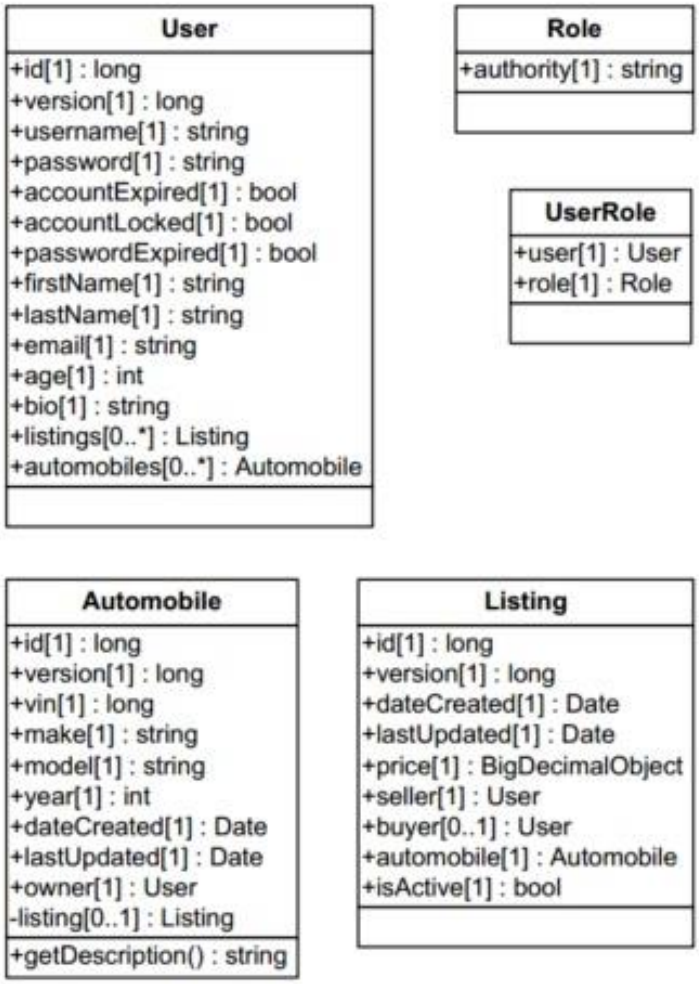
7.3 Administrators

- View all listings (active and closed)
- Toggle all listings between active and closed status
- Edit all users details
- Lock/unlock user accounts from accessing the system

8 Scope of Work

8.1 UML Use Case Diagram

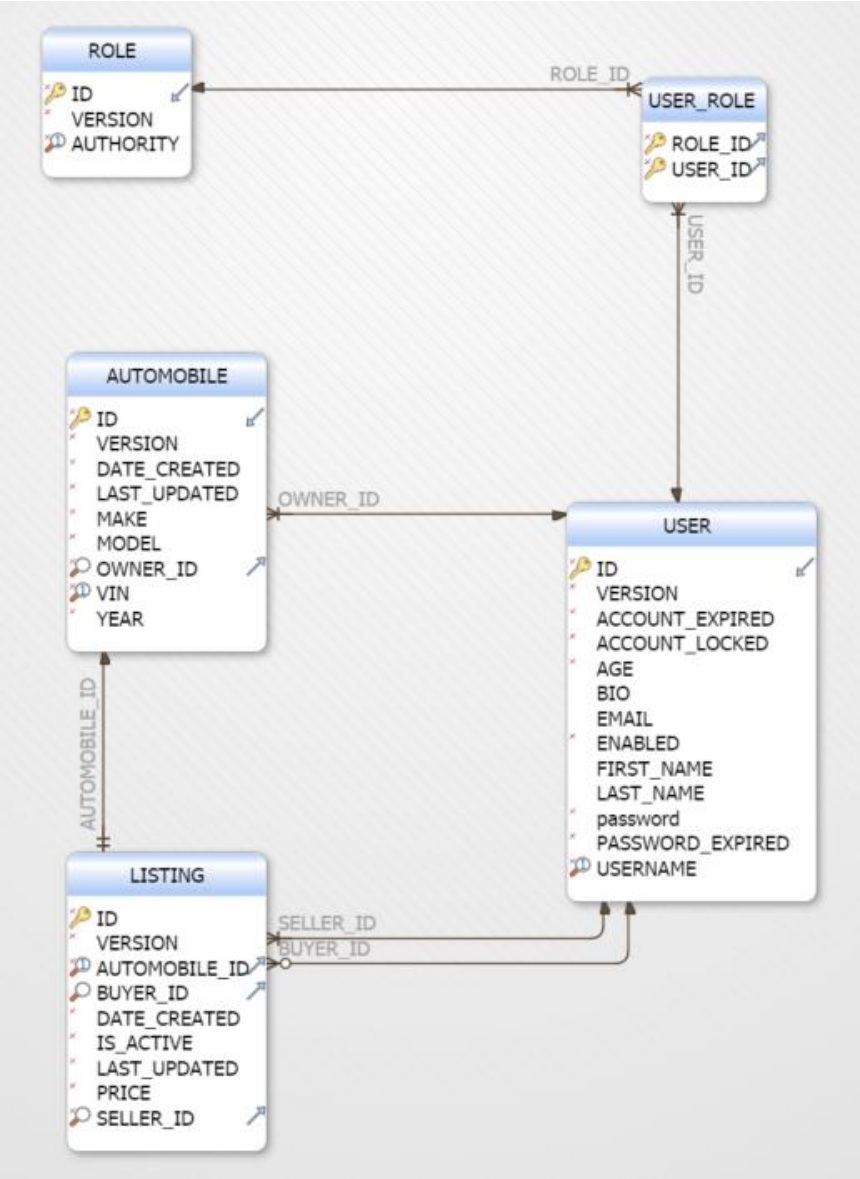
8.2 Class Diagram



9 Data Requirements

9.1 Entity-Relationship Diagram

NOTE: An interactive HTML version of the ERD is available in the “docs” folder of the system source code



9.2 Database Tables

Table ROLE			
*	ID	bigint DEFO (NEXT VALUE FOR PUBLIC.SYSTEM_SEQUENCE_11CDFA44_4778_422D_B68E_B82491E2AA59)	
*	VERSION	bigint	
*	AUTHORITY	varchar(255)	
Indexes			
Pk	CONSTRAINT_2	ON ID	
U	UK_IRSAMGNERA6ANGM0PRQ1KEMT2_INDEX_2	ON AUTHORITY	

Table USER_ROLE			
*	ROLE_ID	bigint	
*	USER_ID	bigint	
Indexes			
Pk	CONSTRAINT_B	ON ROLE_ID, USER_ID	
	FK_APCC8LXK2XNUG8377FATVBN04_INDEX_B	ON USER_ID	
Foreign Keys			
	FK_IT77EQ964JHFQTU54081EBTIO	(ROLE_ID) ref ROLE (ID)	
	FK_APCC8LXK2XNUG8377FATVBN04	(USER_ID) ref USER (ID)	

Table AUTOMOBILE		
*	ID	bigint DEFO (NEXT VALUE FOR PUBLIC.SYSTEM_SEQUENCE_D6A71DE3_F6C6_4396_BE30_CD4F7A732B2A)
*	VERSION	bigint
*	DATE_CREATED	timestamp
*	LAST_UPDATED	timestamp
*	MAKE	varchar(255)
*	MODEL	varchar(255)
*	OWNER_ID	bigint
*	VIN	bigint
*	YEAR	integer
Indexes		
Pk	CONSTRAINT_3	ON ID
U	UK_9DS6FW9JCXA2D86PC6QFSLDAB_INDEX_3	ON VIN
	FK_YAIXHDOFC2AHBVO87F4KXNFD_INDEX_3	ON OWNER_ID
Foreign Keys		
	FK_YAIXHDOFC2AHBVO87F4KXNFD	(OWNER_ID) ref USER (ID)

Table LISTING			
*	ID	bigint DEFO (NEXT VALUE FOR PUBLIC.SYSTEM_SEQUENCE_DD690853_1C9C_4D86_A829_71FD3A86D035)	
*	VERSION	bigint	
*	AUTOMOBILE_ID	bigint	
	BUYER_ID	bigint	
*	DATE_CREATED	timestamp	
*	IS_ACTIVE	boolean	
*	LAST_UPDATED	timestamp	
*	PRICE	decimal(19)	
*	SELLER_ID	bigint	
Indexes			
Pk	CONSTRAINT_35	ON ID	
U	UK_BLQC2QNSV34VDIJ2WDCJA6HP1_INDEX_3	ON AUTOMOBILE_ID	
	FK_3FD1L12TYDNGSG3JK09360EXU_INDEX_3	ON SELLER_ID	
	FK_MR2WLVMJAO25KOSDRJ07SX6X5_INDEX_3	ON BUYER_ID	
Foreign Keys			
	FK_BLQC2QNSV34VDIJ2WDCJA6HP1	(AUTOMOBILE_ID) ref AUTOMOBILE (ID)	

Table LISTING			
	FK_3FD1L12TYDNGSG3JK09360EXU	(SELLER_ID) ref USER (ID)	
	FK_MR2WLVMJAO25KOSDRJ07SX6X5	(BUYER_ID) ref USER (ID)	

Table USER			
*	ID	bigint DEFO (NEXT VALUE FOR PUBLIC.SYSTEM_SEQUENCE_8FF9F30E_E968_4978_8208_BA490A969147)	
*	VERSION	bigint	
*	ACCOUNT_EXPIRED	boolean	
*	ACCOUNT_LOCKED	boolean	
*	AGE	integer	
	BIO	varchar(255)	
	EMAIL	varchar(255)	
*	ENABLED	boolean	
	FIRST_NAME	varchar(255)	
	LAST_NAME	varchar(255)	
*	password	varchar(255)	
*	PASSWORD_EXPIRED	boolean	
*	USERNAME	varchar(255)	

Table USER Indexes			
Pk	CONSTRAINT_27	ON ID	
U	UK_SB8BBOUER5WAK8VYIIY4PF2BX_INDEX_2	ON USERNAME	

10 Look and Feel Requirements

10.1 Appearance Requirements

The system shall have a modern feel. The system shall have a functional and an appealing appearance at a resolution of 1024x768 and higher. The system does not have a requirement to be mobile friendly at this time.

10.2 Style Requirements

The system must have a modern feel that mimics the “flat” design found on modern sites and mobile ecosystems. There are no specific color choices that are required.

11 Usability and Humanity Requirements

11.1 Ease of Use Requirements

The system shall be easy for adults to use. The system will help prevent users from making mistakes by limiting their options as much as possible to acceptable input. The system will provide feedback through tooltips and alert messages to help guide the user.

11.2 Learning Requirements

The system shall be able to be used by users who receive little to no formal training before using it.

11.3 Understandability and Politeness Requirements

The system shall use language and symbols (icons) familiar with the general user base. The details of the system shall be hidden for users.

11.4 Accessibility Requirements

The system shall be accessible at resolutions as low as 1024x768. There is no requirement regarding mobile accessibility.

12 Performance Requirements

* This section is for reference only. Strict requirements cannot be accurately defined without knowing the final production environment specifications.

12.1 Speed and Latency Requirements

The system shall be fast enough to avoid interrupting the user's flow of thought. Asynchronous requests must complete in the standard timeframe of thirty seconds or less.

12.2 Reliability and Availability Requirements

The system shall achieve a 95 percent uptime.

13 Maintainability Requirements

The system must be able to be updated with an hour or less of downtime.

14 Security Requirements

14.1 Access Requirements

- Administrators can lock user accounts
- Only Administrators can see all the users account information (excluding password)
- Users with an active account can access the system

15 Open Issues

It are still unknowns surrounding the production environment:

- Where will it be hosted?
- What hardware resources will be available / how much bandwidth is available?

16 Risks

- Single resource for the entire project process
    - Resource has a prior commitment which allocates 40 hours per week
    - Resource is moving in the middle of November
- Scope Creep

17 User Documentation

- Requirements Specification (this document)
- Software Design
- User's Guide (available on YouTube)
- Developer Document (README)

18 Waiting Room

- Uploading images for automobiles
- Public accessible create user process
- Observer (read only) access to the system for all non-registered users
- Provide a bidding service where potential buyers can make offers for automobiles (in addition to the static "buy it now" option)
- Convert the system to a persisted data source. Either server hosted version of H2, or any other common database technologies e.g. MySQL, Oracle, PostgreSQL.