

# Testing Results

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JALOPY EXCHANGE PROJECT

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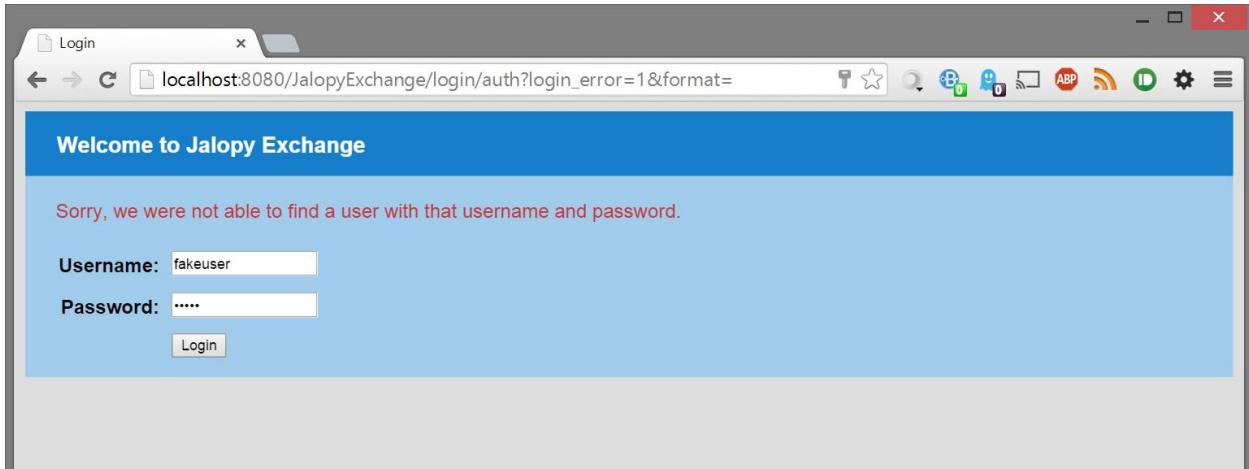
DEGREE ADVISOR: DR. IAN MACDONALD

# 1 Table of Contents

2	Login.....	3
3	Listing Filters .....	4
4	User Specific Tasks .....	5
4.1	Purchases .....	5
4.2	Edit User Account Details.....	7
4.3	Adding a New Automobile .....	11
4.4	Deleting an Automobile .....	15
4.5	Adding a New Listing.....	16
4.6	User Closing Listing .....	21
5	Admin Specific Tasks .....	23
5.1	Listings Screen has admin specific abilities.....	23
5.2	Manage users screen .....	25

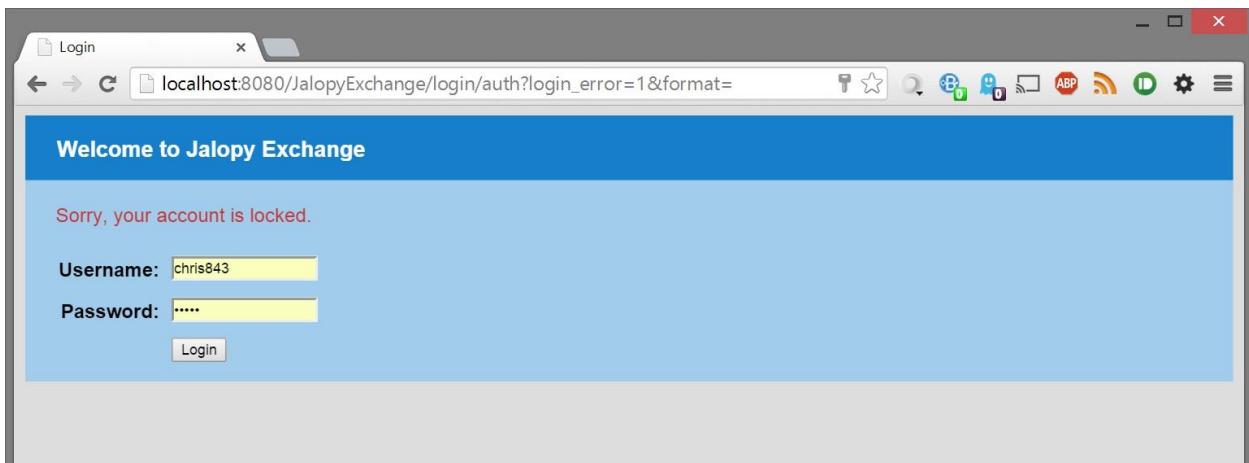
## 2 Login

Incorrect username/password will not be granted access



A screenshot of a web browser window titled "Login". The address bar shows "localhost:8080/JalopyExchange/login/auth?login\_error=1&format=". The main content area has a blue header bar with the text "Welcome to Jalopy Exchange". Below the header, a red error message says "Sorry, we were not able to find a user with that username and password." There are two input fields: "Username: fakeuser" and "Password: .....". A "Login" button is located below the password field.

Users with a locked account will not be granted access



A screenshot of a web browser window titled "Login". The address bar shows "localhost:8080/JalopyExchange/login/auth?login\_error=1&format=". The main content area has a blue header bar with the text "Welcome to Jalopy Exchange". Below the header, a red error message says "Sorry, your account is locked." There are two input fields: "Username: chris843" and "Password: .....". A "Login" button is located below the password field.

### 3 Listing Filters

Status filters active or closed listings

The screenshot shows a web browser window with the URL `localhost:8080/JalopyExchange/`. The page title is "Jalopy Exchange Listings". On the right, there is a "Welcome Admin | Logout" link. Below the title, there is a navigation bar with a "Listings" button and a "Manage Users" button. The main content area is titled "All Listings". At the top of this area are four dropdown menus: "Status: Active", "Make: All", "Seller: All", and a "Search" button. Below these are several columns: Status, Year, Make, Model, Seller, Asking Price, Buyer, Last Updated, and Admin Task. There are five rows of data, each representing a vehicle listing. The first row is for a Ford Fusion from 1998. The second row is for a Subaru WRX from 2014. The third row is for a Subaru Forester from 2003. The fourth row is for a Mazda 6 from 2013. The fifth row is for a Mitsubishi Eclipse from 2006. Each row has an "Open / Close" button in the Admin Task column.

Status	Year	Make	Model	Seller	Asking Price	Buyer	Last Updated	Admin Task
Active	1998	Ford	Fusion	joe123	\$12,000.00		12/02/2014	<button>Open / Close</button>
Active	2014	Subaru	WRX	chris843	\$30,000.00		12/02/2014	<button>Open / Close</button>
Active	2003	Subaru	Forester	chris843	\$20,399.00		12/02/2014	<button>Open / Close</button>
Active	2013	Mazda	6	giants14	\$24,000.00		12/02/2014	<button>Open / Close</button>
Active	2006	Mitsubishi	Eclipse	kcgreiner	\$55,000.00		12/02/2014	<button>Open / Close</button>

Make filters to the selected automobile make. Only automobiles in the system will have their make display in this drop down

This screenshot shows the same application interface as the previous one, but with a different filter applied. The "Make" dropdown menu is now set to "Subaru". The resulting list shows only two entries, both for Subaru vehicles: a WRX from 2014 and a Forester from 2003. The rest of the interface, including the header, navigation bar, and other filters, remains the same.

Status	Year	Make	Model	Seller	Asking Price	Buyer	Last Updated	Admin Task
Active	2014	Subaru	WRX	chris843	\$30,000.00		12/02/2014	<button>Open / Close</button>
Active	2003	Subaru	Forester	chris843	\$20,399.00		12/02/2014	<button>Open / Close</button>

Seller filters to the selected Seller. Only users will listings in the system show up in the drop down

The screenshot shows a web browser window titled 'Jalopy Exchange Listings'. The top navigation bar includes links for 'Welcome Admin | Logout' and 'Manage Users'. Below the header is a search bar with dropdowns for 'Status: All', 'Make: All', and 'Seller: joe123', followed by a 'Search' button. A table displays car listings with columns: Status ↑, Year, Make, Model, Seller, Asking Price, Buyer, Last Updated, and Admin Task. Two rows are visible: one for an Active Ford Fusion from 1998 and another for a Closed Jeep Wrangler from 2000.

Status ↑	Year	Make	Model	Seller	Asking Price	Buyer	Last Updated	Admin Task
Active	1998	Ford	Fusion	joe123	\$12,000.00		12/02/2014	<button>Open / Close</button>
Closed	2000	Jeep	Wrangler	joe123	\$15,000.00	tom456	12/02/2014	<button>Open / Close</button>

## 4 User Specific Tasks

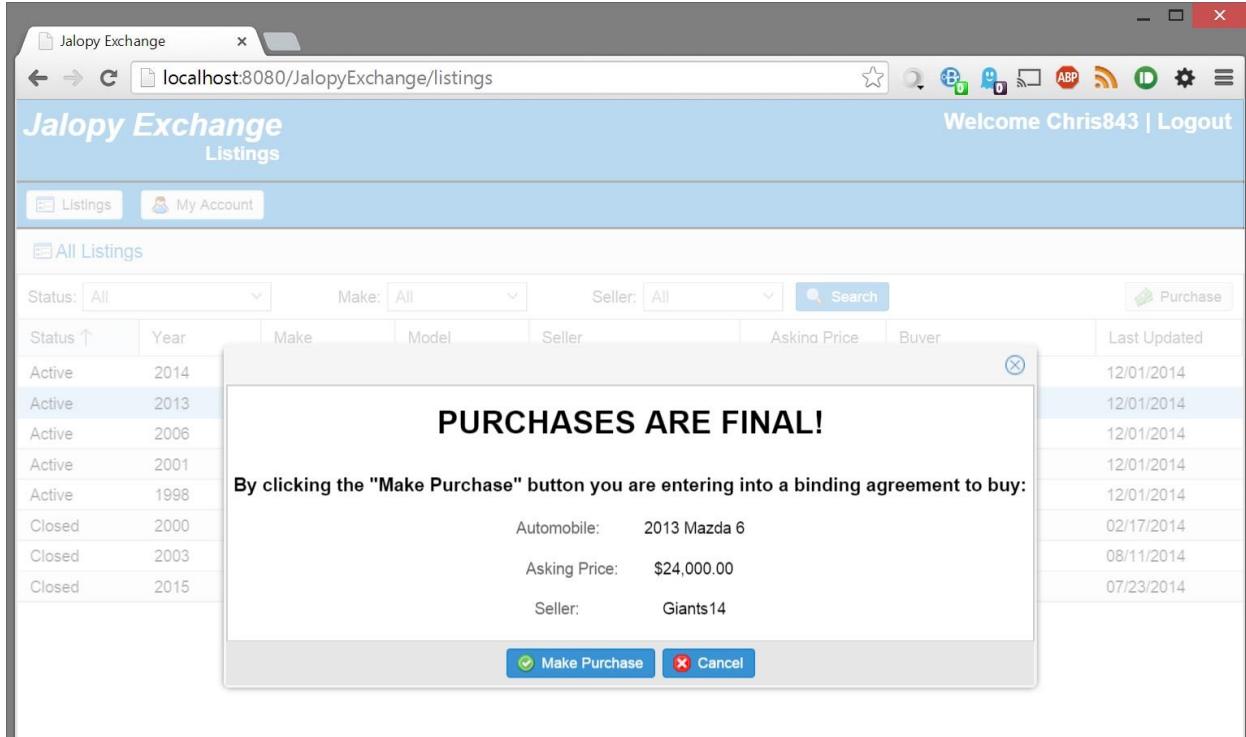
### 4.1 Purchases

Tooltips display for the user

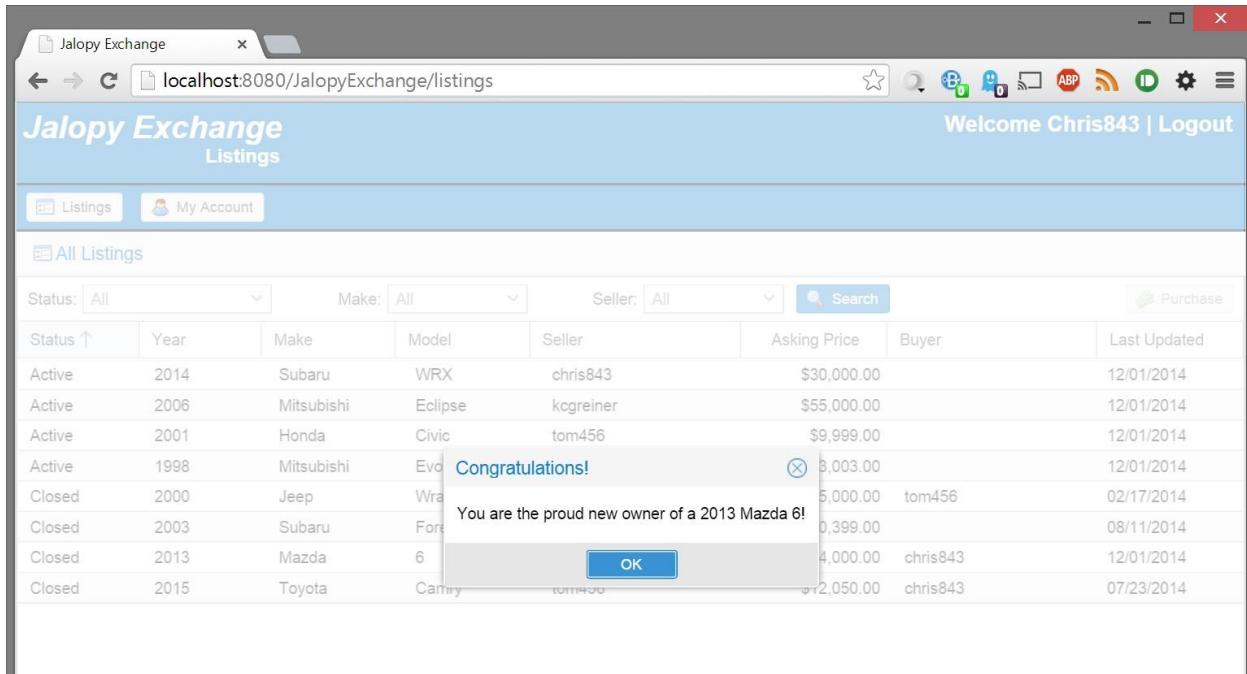
The first screenshot shows a user named 'Chris843' viewing a listing for a 2014 Subaru WRX. A tooltip appears over the 'Purchase' button with the message 'Cannot purchase your own automobile'. The second screenshot shows the same user viewing a different listing for a 2013 Mazda 6, with a tooltip suggesting 'Select an active listing'.

Status ↑	Year	Make	Model	Seller	Asking Price	Buyer	
Active	2014	Subaru	WRX	chris843	\$30,000.00		12/01/2014
Active	2013	Mazda	6	giants14	\$24,000.00		12/01/2014

Confirmation displays listing information prior to completing the purchase



Success message displays after purchase is complete



## 4.2 Edit User Account Details

The system will not allow poorly formatted data to be saved (save button is disabled)

The screenshot shows the 'Jalopy Exchange' application interface. At the top, there's a header bar with the title 'Jalopy Exchange' and 'Welcome Chris843 | Logout'. Below the header, there are two tabs: 'Listings' and 'My Account', with 'My Account' being the active tab.

The main content area is divided into three sections:

- User Details:** A form containing fields for Username (chris843), First Name (Chris), Last Name (Badalucco), Email (bad-email), Age (16), and About Me (my bio). The email field is highlighted in red, indicating an error. A 'Save Changes' button is at the bottom of this section.
- My Automobiles:** A table listing four vehicles. The columns are: Automobile ID, VIN, Year, Make, Model, and Delete. The data is as follows:

Automobile ID	VIN	Year	Make	Model	Delete
1	10000000000000000000	2014	Subaru	WRX	✖
2	11000000000000000000	2003	Subaru	Forester	✖
3	20000000000000000000	1998	Mitsubishi	Evolution	✖
11	14080903004007000	2015	Ford	Fusion	✖

- My Listings:** A table listing three car listings. The columns are: Listing ID, Asking Price, Automobile, Last Updated, Status, and Manage. The data is as follows:

Listing ID	Asking Price	Automobile	Last Updated	Status ↑	Manage
2	\$30,000.00	2014 Subaru WRX	12/01/2014	Active	<button>Close Listing</button>
8	\$103,003.00	1998 Mitsubishi Evolution	12/01/2014	Active	<button>Close Listing</button>
3	\$20,399.00	2003 Subaru Forester	08/11/2014	Closed	<button>Close Listing</button>

At the bottom of the page, a footer bar displays the copyright notice: '©2014. Jalopy Exchange. All Rights Reserved.'

Minimum/Maximum age is enforced

The screenshot shows the 'Jalopy Exchange' application interface. On the left, the 'User Details' section displays the user's information: Username (chris843), First Name (Chris), Last Name (Badalucco), Email (cbada@gmail.com), and Age (13). A tooltip for the Age field indicates: 'The minimum value for this field is 18'. On the right, the 'My Automobiles' section lists five vehicles with their details: 1. 2014 Subaru WRX, 2. 2003 Subaru Forester, 3. 1998 Mitsubishi Evolution, 11. 2015 Ford Fusion. Below this is the 'My Listings' section, which shows one listing: Listing ID 2, Asking Price \$30,000.00, Automobile 2014 Subaru WRX, Last Updated 12/01/2014, Status Active.

This screenshot is identical to the one above, showing the 'Jalopy Exchange' application interface. The 'User Details' section shows the same user information. However, the Age field now contains the value 133, and a tooltip for this field indicates: 'The maximum value for this field is 100'.

Correct email format is enforced

The screenshot shows the 'My Account' page of the Jalopy Exchange application. On the left, there's a 'User Details' form with fields for Username (chris843), First Name (Chris), Last Name (Badalucco), Email (bad-email), and Age (29). The Email field has a red border and a tooltip below it stating: 'This field should be an e-mail address in the format "user@example.com"'. On the right, there's a 'My Automobiles' table listing five vehicles with columns for Automobile ID, VIN, Year, Make, Model, and Delete. A 'Create Listing' button is visible at the bottom.

Confirmation prior to saving changes

The screenshot shows the same 'My Account' page as the previous one, but now a confirmation dialog is overlaid. The dialog asks 'Are you sure you want to save the changes to your user account?' with 'Yes' and 'No' buttons. The background table of automobiles is partially visible behind the dialog.

Success displays after saving changes

The screenshot shows a web browser window for 'Jalopy Exchange' at the URL 'localhost:8080/JalopyExchange/myaccount'. The page is titled 'Jalopy Exchange' and 'My Account'. The 'My Account' tab is selected. On the left, there is a 'User Details' section with fields for Username (chris843), First Name (Chris), Last Name (Badalucco), Email (cbada@gmail.com), Age (29), and About Me (my bio). Below this is a 'Save Changes' button. On the right, there are two tables: 'My Automobiles' and 'My Listings'. The 'My Automobiles' table lists four vehicles with columns for Automobile ID, VIN, Year, Make, Model, and Delete. The 'My Listings' table lists three listings with columns for Listing ID, Asking Price, Automobile, Last Updated, Status, and Manage. A modal dialog box in the center says 'Success' and 'Your account has been updated.' with an 'OK' button. The footer of the page includes a 'Create Listing' button and the copyright notice '©2014. Jalopy Exchange. All Rights Reserved.'

Automobile ID	VIN	Year	Make	Model	Delete
1	10000000000000000000	2014	Subaru	WRX	(Delete)
2	11000000000000000000	2003	Subaru	Forester	(Delete)
3	20000000000000000000	1998	Mitsubishi	Evolution	(Delete)
11		2015	Ford	Fusion	(Delete)

Listing ID	Asking Price	Automobile	Last Updated	Status ↑	Manage
2	\$30,000.00	2014 Subaru WRX	12/01/2014	Active	<button>Close Listing</button>
8	\$103,003.00	1998 Mitsubishi Evolution	12/01/2014	Active	<button>Close Listing</button>
3	\$20,399.00	2003 Subaru Forester	08/11/2014	Closed	<button>Close Listing</button>

## 4.3 Adding a New Automobile

The system will prevent poorly formatted data from being sent to the server (submit button is disabled)

This screenshot shows the 'My Account' page of the Jalopy Exchange application. On the left, there's a 'User Details' sidebar with fields for Username, First Name, Last Name, Email, Age, and About Me. On the right, there's a 'My Automobiles' section displaying a table of existing vehicles and a modal dialog for adding a new one. The modal has fields for VIN, Year, Make, and Model, all of which are currently empty. Below the modal is a 'Submit New Automobile' button, which is greyed out and labeled with a red 'X', indicating it is disabled. The table below shows three existing listings: a 2014 Subaru WRX, a 1998 Mitsubishi Evolution, and a 2003 Subaru Forester.

This screenshot is identical to the one above, but the VIN field in the 'Add New Automobile' modal now contains the invalid value '1000000000000000'. The 'Submit New Automobile' button remains disabled with a red 'X'.

## Maximum / Minimum size VIN enforced

The screenshot shows the Jalopy Exchange application's user account page. On the left, there's a sidebar with 'User Details' containing fields for Username (chris843), First Name (Chris), Last Name (Badalucco), Email (badaluccoc843@strose.edu), Age (29), and About Me (my bio). On the right, there's a 'My Automobiles' section displaying a table of existing vehicles and a modal for adding a new one. The modal has fields for VIN (containing '10000000000000000000'), Year (2014), Make (Subaru), and Model (WRX). A tooltip on the VIN field states: 'The maximum value for this field is 10000000000000000000'. Below the table, listing details like Asking Price, Automobile, Last Updated, Status, and Manage buttons are shown.

This screenshot is from the same application interface as the previous one. It shows the same user details and automobile management screen. In the 'Add New Automobile' modal, the VIN field contains the value '3'. A tooltip on this field indicates: 'The minimum value for this field is 10000000000000000000'. The rest of the modal and the main automobile table below it are identical to the first screenshot.

Minimum/Maximum year enforced. Maximum year is current year + 1

The screenshot shows the Jalopy Exchange application's user account page. On the left, there's a 'User Details' form with fields for Username, First Name, Last Name, Email, Age, and About Me. On the right, there's a 'My Automobiles' section showing a table of existing vehicles and a modal dialog for adding a new one. In the 'Add New Automobile' dialog, the 'Year' field has the value '1800'. A tooltip message 'The minimum value for this field is 1900' is displayed above the input field.

This screenshot is similar to the one above, but the 'Year' field in the 'Add New Automobile' dialog now contains the value '2020'. A tooltip message 'The maximum value for this field is 2015' is displayed above the input field.

## Automobile VIN must be unique

The screenshot shows the Jalopy Exchange My Account interface. On the left, there's a 'User Details' sidebar with fields for Username (chris843), First Name (Chris), Last Name (Badalucco), Email (badaluccoc843@strose.edu), Age (29), and About Me (my bio). On the right, there's a 'My Automobiles' section with a table of existing vehicles and a 'Add New Automobile' form. An 'Error' dialog box is overlaid on the form, stating 'Invalid Automobile: [VIN must be unique.]'. The table below shows three existing cars: a 2014 Subaru WRX, a 1998 Mitsubishi Evolution, and a 2003 Subaru Forester.

Automobile ID	VIN	Year	Make	Model	Delete
1	10000000000000000000	2014	Subaru	WRX	
			Subaru	Forester	
			Mitsubishi	Evolution	

## Success displayed after data is saved

This screenshot shows the same interface after a new vehicle has been successfully added. The 'My Automobiles' table now includes a fourth row: a 2015 Ford Fusion. A 'Success' dialog box is overlaid on the screen, stating 'Your automobile has been added.' The table below shows the updated list of vehicles.

Automobile ID	VIN	Year	Make	Model	Delete
1	10000000000000000000	2014	Subaru	WRX	
2	11000000000000000000	2003	Subaru	Forester	
3	20000000000000000000	1998	Mitsubishi	Evolution	
11		2015	Ford	Fusion	

## 4.4 Deleting an Automobile

Confirmation prior to completing the delete

The screenshot shows the 'Jalopy Exchange' application interface. On the left, there's a 'User Details' sidebar with fields for Username (chris843), First Name (Chris), Last Name (Badalucco), Email (badaluccoc843@strose.edu), Age (29), and About Me (my bio). Below this is a 'Save Changes' button. On the right, there's a 'My Automobiles' section with a table listing three vehicles. A 'Delete' link next to the third vehicle (a 1998 Mitsubishi Evolution) triggers a modal dialog titled 'Confirm Delete' asking 'Are you sure you want to delete the selected automobile?'. The dialog has 'Yes' and 'No' buttons. At the bottom of the page, there's a 'Create Listing' button and a table for managing listings.

Success after the delete is completed

This screenshot shows the same 'Jalopy Exchange' interface after the deletion. The 'My Automobiles' table now only lists two vehicles (the 2003 Subaru Forester and the 1998 Mitsubishi Evolution). A modal dialog titled 'Success' is displayed in the center, stating 'Automobile successfully deleted.' with an 'OK' button. The rest of the page remains largely the same, including the 'User Details' sidebar and the 'Create Listing' section at the bottom.

## 4.5 Adding a New Listing

The system will prevent poorly formatted data from being sent to the server (submit button is disabled)

The screenshot shows a web browser window for 'Jalopy Exchange' at the URL `localhost:8080/JalopyExchange/myaccount`. The page is titled 'Jalopy Exchange' and 'My Account'. It displays 'User Details' on the left and 'My Automobiles' on the right. A modal dialog box is open in the center, titled 'Add New Listing'. The dialog contains fields for 'Seller' (set to 'Chris843'), 'Automobile' (a dropdown menu), and 'Asking Price (\$)' (a text input field). At the bottom of the dialog are 'Submit New Listing' and 'Cancel' buttons. Below the dialog, the 'My Automobiles' section shows a table with five rows of data. At the bottom of the page is a footer with the text '©2014, Jalopy Exchange. All Rights Reserved.'

Automobile ID	VIN	Year	Make	Model	Delete
1	10000000000000000000	2014	Subaru	WRX	(Delete)
2	11000000000000000000	2003	Subaru	Forester	(Delete)
3	998	Mitsubishi	Evolution	(Delete)	
11	015	Ford	Fusion	(Delete)	

Listing ID	Asking Price	Automobile	Last Updated	Status ↑	Manage
2	\$30,000.00	2014 Subaru WRX	12/01/2014	Active	<button>Close Listing</button>
8	\$103,003.00	1998 Mitsubishi Evolution	12/01/2014	Active	<button>Close Listing</button>
3	\$20,399.00	2003 Subaru Forester	08/11/2014	Closed	<button>Close Listing</button>

The screenshot shows the Jalopy Exchange application interface. On the left, there's a sidebar with 'User Details' containing fields for Username (chris843), First Name (Chris), Last Name (Badalucco), Email (cbada@gmail.com), Age (29), and About Me (my bio). Below this is a 'Save Changes' button. On the right, under 'My Automobiles', there's a table of existing vehicles and a modal dialog for adding a new listing. The modal has fields for Seller (Chris843), Automobile (2015 Ford Fusion), and Asking Price (\$ 25000.00). At the bottom of the modal are 'Submit New Listing' and 'Cancel' buttons. The main table shows three rows: a header row, a row for a 2014 Subaru WRX, and a row for a 1998 Mitsubishi Evolution. Below the table is a 'Create Listing' button.

## Automobile is a required field

This screenshot is similar to the previous one but shows a validation error. The 'Automobile' field in the 'Add New Listing' modal is highlighted in red with a validation message: 'Select an automobile... ⓘ This field is required'. The rest of the modal and the main interface remain the same, including the table of existing vehicles and the 'Save Changes' button in the sidebar.

Price is a required field

The screenshot shows the Jalopy Exchange application interface. On the left, there's a sidebar with 'User Details' containing fields for Username (chris843), First Name (Chris), Last Name (Badalucco), Email (cbada@gmail.com), Age (29), and About Me (my bio). On the right, there's a grid titled 'My Automobiles' listing three vehicles: a 2014 Subaru WRX, a 2003 Subaru Forester, and a Mitsubishi Evolution. Below this grid is a modal window titled 'Add New Listing' with fields for Seller (Chris843) and Automobile (dropdown menu labeled 'Select an automobile...'). The 'Asking Price (\$)' field is highlighted in red with a tooltip 'This field is required'. At the bottom of the modal is a 'Save Changes' button.

Jalopy Exchange

Welcome Chris843 | Logout

User Details

My Account

Automobile ID

VIN

Year

Make

Model

Delete

Add Automobile

Add New Listing

Seller: Chris843

Automobile: Select an automobile... ⓘ

Asking Price (\$): Enter a dollar amount... ⓘ

This field is required

Save Changes

Create Listing

Listing ID

Asking Price

Automobile

Last Updated

Status ↑

Manage

Close Listing

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Minimum/Maximum price validations must be met

The screenshot shows the Jalopy Exchange application interface. On the left, the 'User Details' section displays the user's information: Username (chris843), First Name (Chris), Last Name (Badalucco), Email (cbada@gmail.com), Age (29), and About Me (my bio). On the right, the 'My Automobiles' section shows a table of existing vehicles and an 'Add New Listing' dialog. In the 'Add New Listing' dialog, the 'Automobile' dropdown is set to '2015 Ford Fusion' and the 'Asking Price (\$)' input field contains '-2'. A validation message 'The minimum value for this field is 1000' is displayed in a tooltip over the input field.

This screenshot is similar to the one above but shows a maximum price validation error. The 'Asking Price (\$)' input field now contains '10000000', which exceeds the allowed range. A validation message 'The maximum value for this field is 1000000' is displayed in a tooltip over the input field.

Success message displayed once data is saved

The screenshot shows a web browser window for 'Jalopy Exchange' at the URL [localhost:8080/JalopyExchange/myaccount](http://localhost:8080/JalopyExchange/myaccount). The page displays 'My Account' settings and a list of 'My Automobiles'. A modal dialog box is centered on the screen with the title 'Success' and the message 'Your listing has been added.' An 'OK' button is at the bottom of the dialog.

**User Details**

Username:	chris843
First Name:	Chris
Last Name:	Badalucco
Email:	cbada@gmail.com
Age:	29
About Me:	my bio

**My Automobiles**

Automobile ID	VIN	Year	Make	Model	Delete
1	10000000000000000000	2014	Subaru	WRX	(Delete)
2	11000000000000000000	2003	Subaru	Forester	(Delete)
3	20000000000000000000	1998	Mitsubishi	Evolution	(Delete)
11		2015	Ford	Fusion	(Delete)

**My Listings**

Listing ID	Asking Price	Automobile	Last Updated	Status ↑	Manage
2	\$30,000.00	2014 Subaru WRX	12/01/2014	Active	<button>Close Listing</button>
8	\$103,003.00	1998 Mitsubishi Evolution	12/01/2014	Active	<button>Close Listing</button>
9	\$25,000.00	2015 Ford Fusion	12/01/2014	Active	<button>Close Listing</button>
3	\$20,399.00	2003 Subaru Forester	08/11/2014	Closed	<button>Close Listing</button>

**Buttons**

- Save Changes** (in the User Details section)
- Create Listing** (in the My Listings section)
- Close Listing** (multiple buttons in the My Listings section for each listing)

**Page Footer**

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## 4.6 User Closing Listing

A user can close their own open listings

The screenshot shows the 'Jalopy Exchange My Account' interface. On the left, there's a 'User Details' section with fields for Username (chriss843), First Name (Chris), Last Name (Badalucco), Email (cbada@gmail.com), Age (29), and About Me (my bio). A 'Save Changes' button is at the bottom. On the right, there are two tables: 'My Automobiles' and 'Listings'. In the 'Listings' table, the fourth row (Listing ID 3) has a 'Close Listing' button. A modal dialog box is centered over the table, asking 'Are you sure you want to close this listing?' with 'Yes' and 'No' buttons. The 'My Automobiles' table lists four cars: a 2014 Subaru WRX, a 2003 Subaru Forester, a 1998 Mitsubishi Evolution, and a 2015 Ford Fusion.

This screenshot shows the same 'Jalopy Exchange My Account' interface after a listing has been closed. The 'Listings' table now shows the fourth row (Listing ID 3) with a status of 'Closed' and a 'Close Listing' button that is grayed out. A success message 'Listing successfully closed.' is displayed in a modal dialog box. The rest of the interface remains the same, including the 'User Details' section and the 'My Automobiles' table.

## Can only close open listings

The screenshot shows a web browser window for 'Jalopy Exchange' at the URL [localhost:8080/JalopyExchange/myaccount](http://localhost:8080/JalopyExchange/myaccount). The page displays 'User Details' on the left and 'My Automobiles' on the right. In the 'My Automobiles' section, a table lists four vehicles. The fourth row, listing a 2015 Ford Fusion, has a 'Close Listing' button. A modal dialog box is overlaid on the page, titled 'Error', with the message 'Listing already closed.' and an 'OK' button. At the bottom of the page, there is a footer with the text '©2014, Jalopy Exchange. All Rights Reserved.'

Automobile ID	VIN	Year	Make	Model	Delete
1	10000000000000000000	2014	Subaru	WRX	(red)
2	11000000000000000000	2003	Subaru	Forester	(red)
3	20000000000000000000	1998	Mitsubishi	Evolution	(red)
11	Error				
2015	Ford	Fusion			(red)

OK

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## 5 Admin Specific Tasks

### 5.1 Listings Screen has admin specific abilities

The screenshot shows a web browser window for 'Jalopy Exchange' at 'localhost:8080/JalopyExchange/'. The title bar says 'Welcome Admin | Logout'. The main content is titled 'Listings' with a 'All Listings' button. Below is a table with columns: Status, Year, Make, Model, Seller, Asking Price, Buyer, Last Updated, and Admin Task. The table contains several rows of vehicle data. At the bottom right of the table is a blue 'Open / Close' button.

Status ↑	Year	Make	Model	Seller	Asking Price	Buyer	Last Updated	Admin Task
Active	2006	Mitsubishi	Eclipse	kcgreiner	\$55,000.00		12/01/2014	<button>Open / Close</button>
Active	2001	Honda	Civic	tom456	\$9,999.00		12/01/2014	<button>Open / Close</button>
Active	1998	Mitsubishi	Evolution	chris843	\$103,003.00		12/01/2014	<button>Open / Close</button>
Active	1998	Ford	Fusion	joe123	\$1,000.00		12/01/2014	<button>Open / Close</button>
Closed	2000	Jeep	Wrangler	joe123	\$15,000.00	tom456	02/17/2014	<button>Open / Close</button>
Closed	2003	Subaru	Forester	chris843	\$20,399.00		08/11/2014	<button>Open / Close</button>
Closed	2013	Mazda	6	giants14	\$24,000.00	chris843	12/01/2014	<button>Open / Close</button>
Closed	2015	Toyota	Camry	tom456	\$12,050.00	chris843	07/23/2014	<button>Open / Close</button>

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#### Close an Active Listing

The screenshot shows the same 'Jalopy Exchange' interface. A modal dialog box titled 'Confirm Close' is displayed in the center. It contains the message: 'This listing is currently open. Are you sure you want to close it?'. There are 'Yes' and 'No' buttons at the bottom. The background table of listings is partially visible.

Status ↑	Year	Make	Model	Seller	Asking Price	Buyer	Last Updated	Admin Task
Active	2001	Honda	Civic	tom456	\$9,999.00		12/01/2014	<button>Open / Close</button>
Active	1998	Mitsubishi	Evolution	chris843	\$103,003.00		12/01/2014	<button>Open / Close</button>
Active	1998	Ford	Fusion	joe123	\$1,000.00		12/01/2014	<button>Open / Close</button>
Active	2003	Subaru	Forester	chris843	\$20,399.00		08/11/2014	<button>Open / Close</button>
Active	2006	Mitsubishi	Eclipse	kcgreiner	\$55,000.00		12/01/2014	<button>Open / Close</button>
Closed	2000	Jeep	Wrangler	tom456	\$15,000.00		02/17/2014	<button>Open / Close</button>
Closed	2013	Mazda	6	giants14	\$24,000.00	chris843	12/01/2014	<button>Open / Close</button>
Closed	2015	Toyota	Camry	tom456	\$12,050.00	chris843	07/23/2014	<button>Open / Close</button>

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The screenshot shows a web browser window for 'Jalopy Exchange' at 'localhost:8080/JalopyExchange/'. The title bar says 'Jalopy Exchange'. The main content area is titled 'Listings' with a sub-section 'All Listings'. A modal dialog box is centered over the table, displaying a 'Success' message: 'Listing successfully closed.' with an 'OK' button. The table lists car listings with columns: Status, Year, Make, Model, Seller, Asking Price, Buyer, Last Updated, and Admin Task. One listing for a Mitsubishi Evolution is highlighted with a red border. The footer of the page includes a copyright notice: '©2014. Jalopy Exchange. All Rights Reserved.'

## Open a Closed Listing

The screenshot shows a web browser window for 'Jalopy Exchange' at 'localhost:8080/JalopyExchange/'. The title bar says 'Jalopy Exchange'. The main content area is titled 'Listings' with a sub-section 'All Listings'. A modal dialog box is centered over the table, displaying a 'Confirm Open' message: 'This listing is currently closed. Are you sure you want to open it?' with 'Yes' and 'No' buttons. The table lists car listings with columns: Status, Year, Make, Model, Seller, Asking Price, Buyer, Last Updated, and Admin Task. One listing for a Mitsubishi Evolution is highlighted with a red border. The footer of the page includes a copyright notice: '©2014. Jalopy Exchange. All Rights Reserved.'

The screenshot shows the 'Jalopy Exchange Listings' page. At the top, there are dropdown filters for Status (All), Year, Make, Model, Seller, Asking Price, Buyer, Last Updated, and Admin Task. A search bar is also present. Below the filters is a table of car listings. In the middle-right of the screen, a modal dialog box is displayed with the title 'Success' and the message 'Listing successfully opened.' with an 'OK' button. The table data includes columns for Status, Year, Make, Model, Seller, Asking Price, Buyer, Last Updated, and Admin Task. The last row of the table shows a listing for a Toyota Camry with ID 6, seller tom456, asking price \$12,050.00, and buyer chris843.

Status ↑	Year	Make	Model	Seller	Asking Price	Buyer	Last Updated	Admin Task
Active	1998	Mitsubishi	Evolution	chris843	\$103,003.00		12/01/2014	<button>Open / Close</button>
Active	1998	Ford	Fusion	joe123	\$1,000.00		12/01/2014	<button>Open / Close</button>
Active	2003	Subaru	Forester	chris843	\$20,399.00		08/11/2014	<button>Open / Close</button>
Active	2006	Mitsubishi	Eclipse	chris843	\$20,399.00		12/01/2014	<button>Open / Close</button>
Active	2001	Honda	Civic	chris843	\$20,399.00		12/01/2014	<button>Open / Close</button>
Closed	2000	Jeep	Wrangler	tom456	\$20,399.00	tom456	02/17/2014	<button>Open / Close</button>
Closed	2013	Mazda	6	chris843	\$20,399.00	chris843	12/01/2014	<button>Open / Close</button>
Closed	2015	Toyota	Camry	tom456	\$12,050.00	chris843	07/23/2014	<button>Open / Close</button>

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## 5.2 Manage users screen

The screenshot shows the 'Jalopy Exchange Users' page. At the top, there are dropdown filters for Activity (All) and User. A search bar is also present. Below the filters is a table of user accounts. The table has columns for ID, Activity, User, First Name, Last Name, Email, Age, Bio, and Actions. The last column contains icons for edit and delete. The table data includes rows for admin (ID 1), chris843 (ID 2), joe123 (ID 3), tom456 (ID 4), rockStar33 (ID 5), giants14 (ID 6), and kcgreiner (ID 7). The bio column for chris843 contains the text 'my bio'.

ID	Activity	User	First Name	Last Name	Email	Age	Bio	Actions
1	Active	admin				0		
2	Active	chris843	Chris	Badalucco	cbada@gmail.com	29	my bio	
3	Active	joe123	Joe	Generon	joe73@aol.com	37		
4	Active	tom456	Tom	Marvin	tm@yahoo.com	68		
5	Active	rockStar33	Adam	Sellman	rockStr824@gmail.com	23		
6	Active	giants14	Ryan	Godfrey	godfrey@live.com	25		
7	Active	kcgreiner	Kurt	Greiner	kcg@yahoo.com	24		

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### Confirm Admin cannot lock themselves

The screenshot shows a web browser window for 'Jalopy Exchange' at the URL [localhost:8080/JalopyExchange/users](http://localhost:8080/JalopyExchange/users). The page displays a table of users with columns: ID, Activity, User, First Name, Last Name, Email, Age, Bio, and Actions. The 'Actions' column contains a 'Lock User' link for each user. A modal dialog box titled 'Cannot Lock' is overlaid on the page, containing the message 'You cannot lock yourself!' and an 'OK' button.

ID	Activity	User	First Name	Last Name	Email	Age	Bio	Actions
1	Active	admin				0		<a href="#">Lock User</a>
2	Active	chris843	Chris	Badalucco	cbada@gmail.com	29	my bio	<a href="#">Lock User</a>
3	Active	joe123	Joe	Generon	joe73@aol.com	37		<a href="#">Lock User</a>
4	Active	tom456	Tom	Marvin	tm@yahoo.com	68		<a href="#">Lock User</a>
5	Active	rockStar33	Adam			23		<a href="#">Lock User</a>
6	Active	giants14	Ryan			25		<a href="#">Lock User</a>
7	Active	kogreiner	Kurt			24		<a href="#">Lock User</a>

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### Confirm cannot lock an already locked account

The screenshot shows the same web browser window for 'Jalopy Exchange' at the URL [localhost:8080/JalopyExchange/users](http://localhost:8080/JalopyExchange/users). The table now shows a different state for the second user (ID 2): 'Locked'. A modal dialog box titled 'Cannot Lock' is overlaid on the page, containing the message 'User is already locked.' and an 'OK' button.

ID	Activity	User	First Name	Last Name	Email	Age	Bio	Actions
1	Active	admin				0		<a href="#">Lock User</a>
2	Locked	chris843	Chris	Badalucco	cbada@gmail.com	29	my bio	<a href="#">Lock User</a>
3	Active	joe123	Joe	Generon	joe73@aol.com	37		<a href="#">Lock User</a>
4	Active	tom456	Tom	Marvin	tm@yahoo.com	68		<a href="#">Lock User</a>
5	Active	rockStar33	Adam			23		<a href="#">Lock User</a>
6	Active	giants14	Ryan			25		<a href="#">Lock User</a>
7	Active	kogreiner	Kurt			24		<a href="#">Lock User</a>

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### Confirm cannot unlock an already unlocked (active) account

The screenshot shows a web browser window for 'Jalopy Exchange' at the URL `localhost:8080/JalopyExchange/users`. The page displays a table of user listings with columns: ID, Activity, User, First Name, Last Name, Email, Age, Bio, and Actions. A modal dialog box is centered over the table, titled 'Cannot Unlock'. It contains the message 'User is already unlocked.' and has an 'OK' button at the bottom.

ID	Activity	User	First Name	Last Name	Email	Age	Bio	Actions
1	Active	admin				0		
2	Active	chris843	Chris	Badalucco	cbada@gmail.com	29	my bio	
3	Active	joe123	Joe	Generon	joe73@aol.com	37		
4	Active	tom456	Tom	Marvin	tm@yahoo.com	68		
5	Active	rockStar33	Adam			23		
6	Active	giants14	Ryan			25		
7	Active	kcgreiner	Kurt			24		

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### Lock an account

The screenshot shows a web browser window for 'Jalopy Exchange' at the URL `localhost:8080/JalopyExchange/users`. The page displays a table of user listings with columns: ID, Activity, User, First Name, Last Name, Email, Age, Bio, and Actions. A modal dialog box is centered over the table, titled 'Confirm Lock'. It contains the question 'Are you sure you want to lock this users account?' and two buttons: 'Yes' and 'No'.

ID	Activity	User	First Name	Last Name	Email	Age	Bio	Actions
1	Active	admin				0		
2	Active	chris843	Chris	Badalucco	cbada@gmail.com	29	my bio	
3	Active	joe123	Joe	Generon	joe73@aol.com	37		
4	Active	tom456	Tom	Marvin	tm@yahoo.com	68		
5	Active	rockStar33	Adam			23		
6	Active	giants14	Ryan			25		
7	Active	kcgreiner	Kurt			24		

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The screenshot shows a web browser window for 'Jalopy Exchange' at the URL [localhost:8080/JalopyExchange/users](http://localhost:8080/JalopyExchange/users). The page displays a table of users with columns: ID, Activity, User, First Name, Last Name, Email, Age, Bio, and Actions. A modal dialog box is open in the center, titled 'Success', containing the message 'User successfully locked.' with an 'OK' button.

ID	Activity	User	First Name	Last Name	Email	Age	Bio	Actions	
1	Active	admin				0			
2	Locked	chris843	Chris	Badalucco	cbada@gmail.com	29	my bio		
3	Active	joe123	Joe	Generon	joe73@aol.com	37			
4	Active	tom456	Tom	Marvin	tm@yahoo.com	68			
5	Active	rockStar33	Adam			23			
6	Active	giants14	Ryan			25			
7	Active	kcgreiner	Kurt			24			

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## Unlock a locked account

The screenshot shows a web browser window for 'Jalopy Exchange' at the URL [localhost:8080/JalopyExchange/users](http://localhost:8080/JalopyExchange/users). The page displays a table of users. A modal dialog box is open, titled 'Confirm Unlock', asking 'Are you sure you want to unlock this users account?' with 'Yes' and 'No' buttons. The user 'chris843' is listed as 'Locked' in the table.

ID	Activity	User	First Name	Last Name	Email	Age	Bio	Actions	
1	Active	admin				0			
2	Locked	chris843	Chris	Badalucco	cbada@gmail.com	29	my bio		
3	Active	joe123	Joe	Generon	joe73@aol.com	37			
4	Active	tom456	Tom	Marvin	tm@yahoo.com	68			
5	Active	rockStar33	Adam			23			
6	Active	giants14	Ryan			25			
7	Active	kcgreiner	Kurt			24			

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The screenshot shows a web browser window for 'Jalopy Exchange' at the URL 'localhost:8080/JalopyExchange/users'. The title bar says 'Jalopy Exchange' and the address bar shows the same URL. The page header includes 'Welcome Admin | Logout'. Below the header is a navigation bar with 'Listings' and 'Manage Users'. The main content area is titled 'All Users' and displays a table with columns: ID, Activity, User, First Name, Last Name, Email, Age, Bio, and Actions. There are 7 rows of data. A modal dialog box titled 'Success' is overlaid on the table, containing the message 'User successfully unlocked.' with an 'OK' button.

ID	Activity	User	First Name	Last Name	Email	Age	Bio	Actions
1	Active	admin				0		
2	Active	chris843	Chris	Badalucco	cbada@gmail.com	29	my bio	
3	Active	joe123	Joe	Generon	joe73@aol.com	37		
4	Active	tom456	Tom	Marvin	tm@yahoo.com	68		
5	Active	rockStar33	Adam	Sellman	rockStr824@gmail.com	23		
6	Active	giants14	Ryan	Godfrey	godfrey@live.com	25		
7	Active	kogreiner	Kurt	Greiner	kcg@yahoo.com	24		

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Admin can edit all the user's details except for username and password

The screenshot shows a web browser window for 'Jalopy Exchange' at the URL 'localhost:8080/JalopyExchange/users'. The title bar says 'Jalopy Exchange' and the address bar shows the same URL. The page header includes 'Welcome Admin | Logout'. Below the header is a navigation bar with 'Listings' and 'Manage Users'. The main content area is titled 'All Users' and displays a table with columns: ID, Activity, User, First Name, Last Name, Email, Age, Bio, and Actions. The second row (User chris843) is selected and has its details displayed in a form overlay. The form fields are: First Name (Chris), Last Name (Badalucco), Email (cbada@gmail.com). Below the form are 'Update' and 'Cancel' buttons. The rest of the table and the navigation bar are visible.

ID	Activity	User	First Name	Last Name	Email	Age	Bio	Actions
1	Active	admin				0		
2	Active	chris843	Chris	Badalucco	cbada@gmail.com	29	my bio	
3	Active	joe123	Joe	Generon		37		
4	Active	tom456	Tom	Marvin		68		
5	Active	rockStar33	Adam	Sellman	rockStr824@gmail.com	23		
6	Active	giants14	Ryan	Godfrey	godfrey@live.com	25		
7	Active	kogreiner	Kurt	Greiner	kcg@yahoo.com	24		

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Enforce valid input (e.g. email, min/max age)

The screenshot shows a web browser window for the 'Jalopy Exchange' application at the URL `localhost:8080/JalopyExchange/users`. The page title is 'Jalopy Exchange' and the sub-page title is 'Users'. A navigation bar at the top includes 'Welcome Admin | Logout' and 'Manage Users'. Below the navigation is a 'Listings' button and a 'All Users' section. The 'All Users' table has columns: ID, Activity, User, First Name, Last Name, Email, Age, Bio, and Actions. Row 2, where the User is 'chris843', shows an error message: 'Email: This field should be an e-mail address in the format "user@example.com"'. The 'Email' field contains 'cfadsf'. The 'Update' button is highlighted in blue.

ID	Activity	User	First Name	Last Name	Email	Age	Bio	Actions
1	Active	admin				0		
2	Active	chris843	Chris	Badalucco	cfadsf	<b>Errors</b>		
3	Active	joe123	Joe	Generon				
4	Active	tom456	Tom	Marvin		68		
5	Active	rockStar33	Adam	Sellman	rockStr824@gmail.com	23		
6	Active	giants14	Ryan	Godfrey	godfrey@live.com	25		
7	Active	kcgreiner	Kurt	Greiner	kcg@yahoo.com	24		

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This screenshot is identical to the one above, except the validation error is now for the 'Age' field. Row 3, where the User is 'joe123', shows an error message: 'Age: The maximum value for this field is 100'. The 'Age' field contains '37'. The 'Update' button is highlighted in blue.

ID	Activity	User	First Name	Last Name	Email	Age	Bio	Actions
1	Active	admin				0		
2	Active	chris843	Chris	Badalucco	cbada@gmail.com		<b>Errors</b>	
3	Active	joe123	Joe	Generon		37		
4	Active	tom456	Tom	Marvin		68		
5	Active	rockStar33	Adam	Sellman	rockStr824@gmail.com	23		
6	Active	giants14	Ryan	Godfrey	godfrey@live.com	25		
7	Active	kcgreiner	Kurt	Greiner	kcg@yahoo.com	24		

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The screenshot shows a web browser window for 'Jalopy Exchange' at the URL [localhost:8080/JalopyExchange/users](http://localhost:8080/JalopyExchange/users). The page title is 'Jalopy Exchange Users'. A navigation bar at the top right includes 'Welcome Admin | Logout'. Below the title, there's a 'Listings' tab and a 'Manage Users' button. The main content is a table titled 'All Users' with columns: ID, Activity, User, First Name, Last Name, Email, Age, Bio, and Actions. The 'Age' column for user ID 2 contains the value '0', which is highlighted with a red border and a tooltip message: 'Age: The minimum value for this field is 18'. The 'Actions' column for user ID 2 contains icons for edit, delete, and other operations.

ID	Activity	User	First Name	Last Name	Email	Age	Bio	Actions
1	Active	admin				0		
2	Active	chris843	Chris	Badalucco	cbada@gmail.com	0	m Errors	
3	Active	joe123	Joe	Generon		37		
4	Active	tom456	Tom	Marvin		68		
5	Active	rockStar33	Adam	Sellman	rockStr824@gmail.com	23		
6	Active	giants14	Ryan	Godfrey	godfrey@live.com	25		
7	Active	kcgreiner	Kurt	Greiner	kcg@yahoo.com	24		

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Confirm changes have been saved

The screenshot shows the same 'Jalopy Exchange' application interface as the previous one. The user 'chris843' has been updated, and a modal dialog box titled 'Success' appears in the center of the screen. The message in the dialog is 'chris843 was updated.' and there is an 'OK' button at the bottom. The rest of the page, including the table and navigation elements, remains the same.

ID	Activity	User	First Name	Last Name	Email	Age	Bio	Actions
1	Active	admin				0		
2	Active	chris843	Christopher	Badalucco	cbada@gmail.com	29	Please update with appropriate e...	
3	Active	joe123	Joe	Generon	joe73@aol.com	37		
4	Active	tom456	Tom	Marvin	tm@yahoo.com	68		
5	Active	rockStar33	Adam	Sellman		23		
6	Active	giants14	Ryan	Godfrey		25		
7	Active	kcgreiner	Kurt	Greiner		24		

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