

**MICHIGAN STATE**  

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**U N I V E R S I T Y**

# Beta Presentation

## Mobile RFID Inventory Tracking System

### The Capstone Experience

Team Quicken Loans

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*From Students...  
...to Professionals*

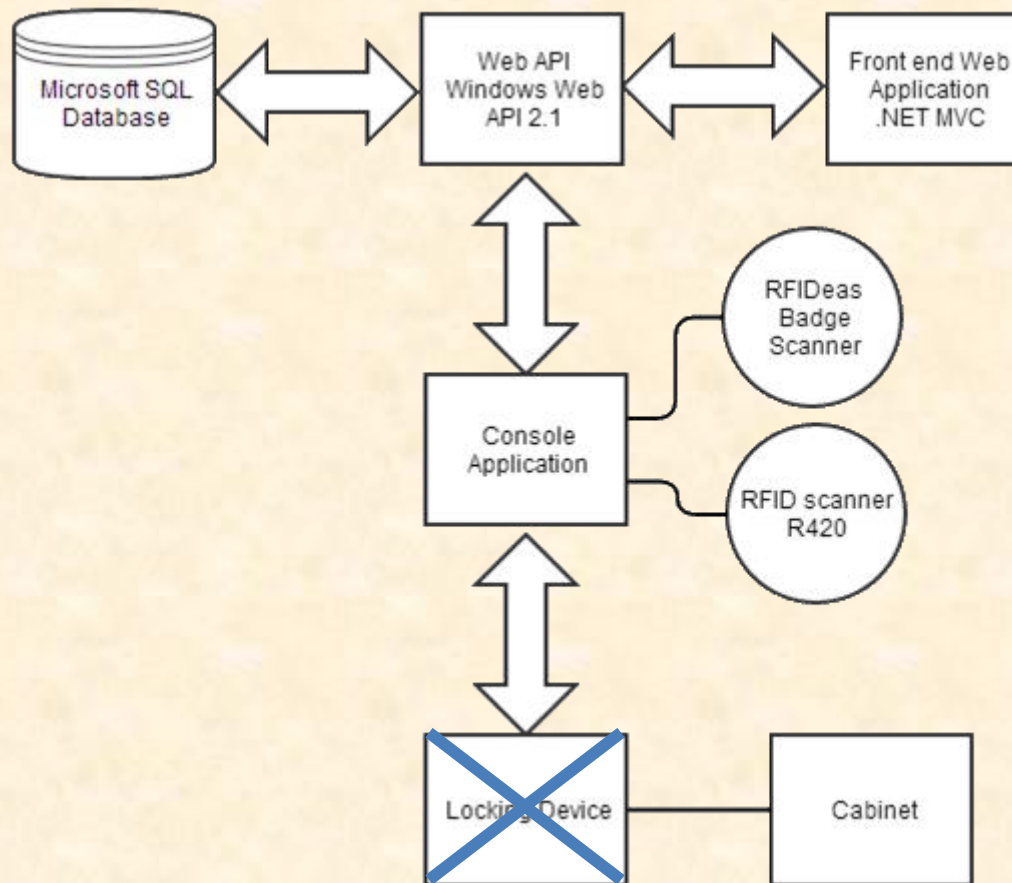
# Project Overview

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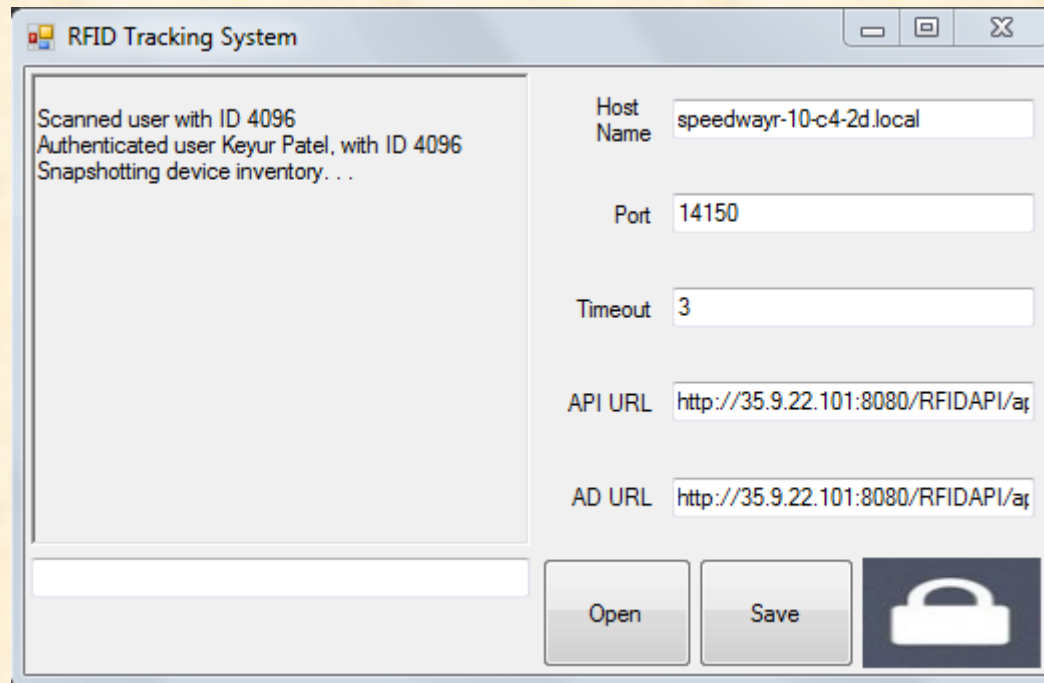
- Make it easy to track mobile devices
- Use RFID scanner with tags to track phones
- Use RFID badge scanner to scan ID badges
- Accompanying web app displays statuses



# System Architecture



# RFID Tracking System



The screenshot shows a window titled "RFID Tracking System" with a standard Windows-style title bar (minimize, maximize, close buttons). The window is divided into two main sections. On the left, there is a text area containing the following text: "Scanned user with ID 4096", "Authenticated user Keyur Patel, with ID 4096", and "Snapshotting device inventory. . .". Below this text area is a small, empty white rectangular box. On the right side, there are several input fields and buttons. The "Host Name" field contains "speedway-10-c4-2d.local". The "Port" field contains "14150". The "Timeout" field contains "3". The "API URL" field contains "http://35.9.22.101:8080/RFIDAPI/ar". The "AD URL" field contains "http://35.9.22.101:8080/RFIDAPI/ar". At the bottom right of the window, there are three buttons: "Open", "Save", and a button with a white padlock icon on a dark background.



# Front End Device List

Current Device Inventory · x

35.9.22.101:8081/DeviceTracking

RFID Front End QLAD\Jake ▾

### Current Device Inventory

Show  Rows

RFID Tag Number	Manufacturer	Name	OS	OS Version	Checked Out?	Delete
91	Microsoft	Windows Tester	Windows	8.0	--	<a href="#">✕</a>
92	Nokia	Windows Backup	Windows	8.0	--	<a href="#">✕</a>
93	HTC	Presentation Tablet	Windows	8.0	--	<a href="#">✕</a>
95	Samsung	Tablet Test	Android	4.0	--	<a href="#">✕</a>
96	HTC	QA app tester	Android	4.0	--	<a href="#">✕</a>
94	HTC	HTC Tester	Android	4.2.2	--	<a href="#">✕</a>

Showing 1 to 6 of 6 entries [◀ Previous](#) [Next ▶](#)



# Front End Device History

RFID Front End QLAD\Jake ▾

## Device Information

<b>Device Name</b>	Windows Tester	<b>RFID Tag Number</b>	91
<b>Checked Out?</b>	False	<b>Type</b>	Microsoft Windows 8.0

## Device History

Full Name	Username	Check Out Time	Check In Time
Rasor, Josh	QLAD\Josh	3/25/2014 2:21:53 PM	3/25/2014 2:25:10 PM
Patel, Keyur	QLAD\KP	3/24/2014 1:23:58 PM	3/24/2014 1:24:23 PM
Patel, Keyur	QLAD\KP	3/24/2014 1:19:25 PM	3/24/2014 1:20:46 PM
Patel, Keyur	QLAD\KP	3/21/2014 11:28:41 AM	3/21/2014 11:31:16 AM
Rasor, Josh	QLAD\Josh	3/21/2014 10:26:55 AM	3/21/2014 11:10:30 AM
Rasor, Josh	QLAD\Josh	3/14/2014 12:00:00 AM	3/18/2014 12:00:00 AM



# Front End User History

The screenshot shows a web browser window with the URL `35.9.22.101:8081/DeviceTracking/user/details/4096`. The page title is "RFID Front End" and the user is logged in as "QLADJake".

### User Information

<b>Name</b>	Patel, Keyur	<b>Badge Number</b>	4096
<b>User Id</b>	6	<b>Extension Number</b>	999

### Device Checkout History

RFID Tag Number	Device	Check Out Time	Checked In Time
91	Windows Tester	3/24/2014 1:23:58 PM	3/24/2014 1:24:23 PM
91	Windows Tester	3/24/2014 1:19:25 PM	3/24/2014 1:20:46 PM
91	Windows Tester	3/21/2014 11:28:41 AM	3/21/2014 11:31:16 AM
92	Windows Backup	3/21/2014 11:37:02 AM	3/21/2014 11:38:10 AM
92	Windows Backup	3/21/2014 11:32:54 AM	3/21/2014 11:34:17 AM
92	Windows Backup	3/21/2014 11:22:26 AM	3/21/2014 11:25:17 AM
92	Windows Backup	3/21/2014 11:19:12 AM	3/21/2014 11:19:55 AM
92	Windows Backup	3/21/2014 10:44:51 AM	3/21/2014 10:46:40 AM
93	Presentation Tablet	3/24/2014 1:38:30 PM	3/25/2014 2:20:00 PM



# Add Device/CRUD Operations

The screenshot shows a web browser window with the URL `35.9.22.101:8081/DeviceTracking/Administration/AddDevice`. The page title is "RFID Front End" and the user is logged in as "QLADJake". The main content area is titled "Device Information" and contains three input fields: "DeviceName" with the value "New Device", "RFIDTagNumber" with the value "0908", and "DeviceType" with a dropdown menu showing "Apple iOS 7.0". Below these fields is a blue "Add Device" button. At the bottom of the page, there are four management panels: "Device Management" (with "Add Device" and "Device Inventory" buttons), "Device Type Management" (with "Add Device Type" and "Device Type List" buttons), "Manufacturer Management" (with "Add Manufacturer" and "Manufacturer List" buttons), and "Operating System Management" (with "Add Device" and "OS List" buttons).





# What's left to do?

- Styling on the front-end
- Code Refactoring
  - Refactor front end/API – API should be usable by human beings.
  - Add JQuery.UnobtrusiveValidation for client-side validation
  - Refactor Windows Forms Application code to be cleaner and readable.
- UI Refactoring / Cleanup
  - Clean up and make RFID Tracking System, The Windows Forms Application, more robust and usable

