

MICHIGAN STATE

U N I V E R S I T Y

Alpha Presentation

Mobile RFID Inventory Tracking System

The Capstone Experience

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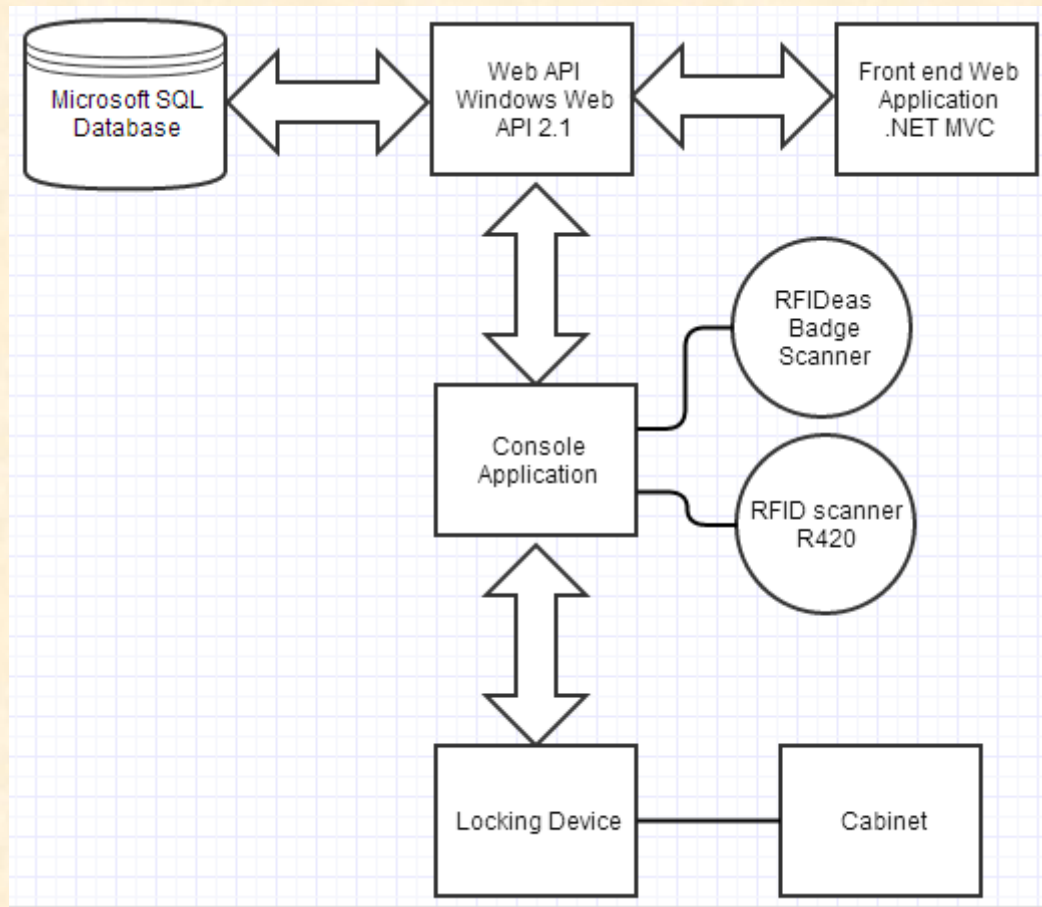
*From Students...
...to Professionals*

Project Overview

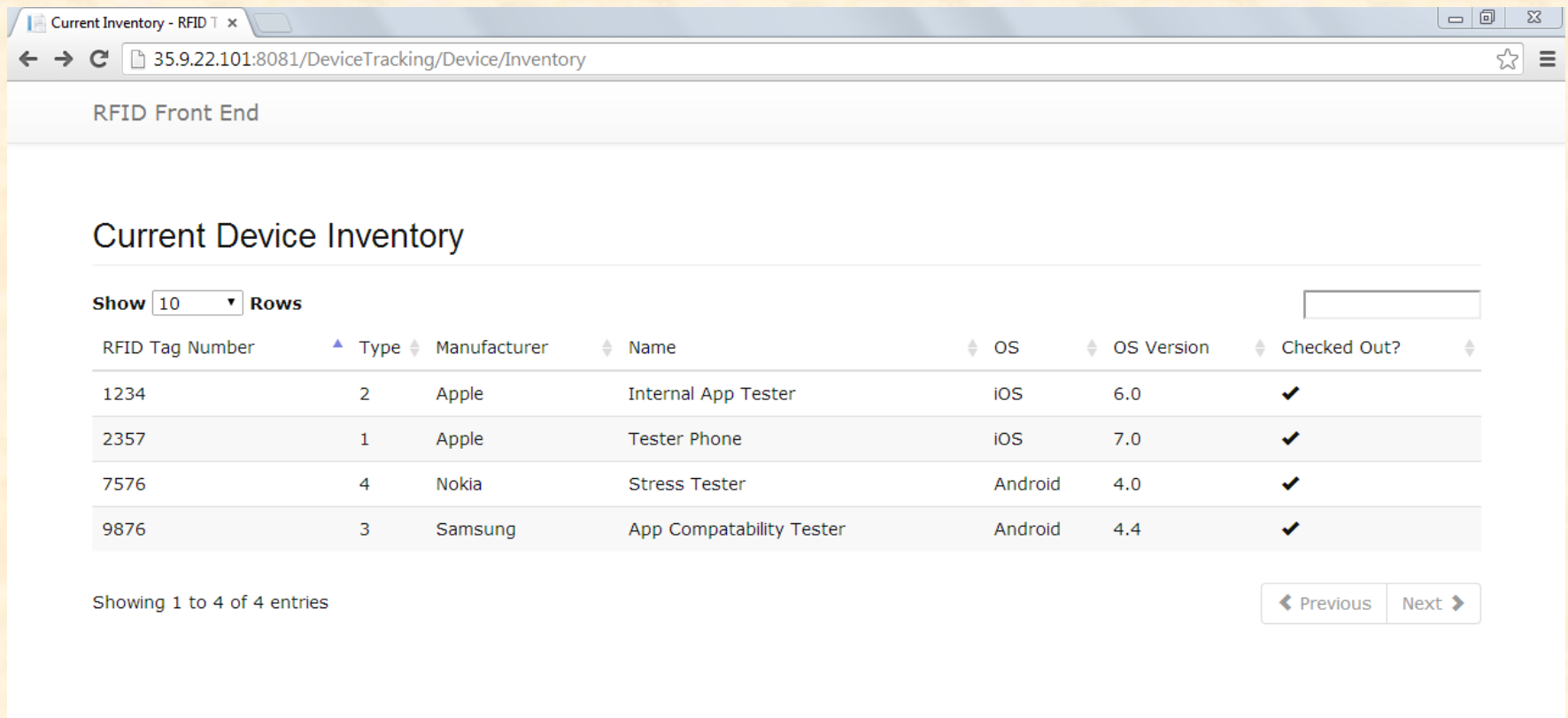
- “Mobile RFID Inventory Tracking System”
- RFID scanner, badge scanner, lock
- .NET MVC web application, web API back end, Microsoft SQL server



System Architecture



Web Application



The screenshot shows a web browser window with the title "Current Inventory - RFID T x" and the URL "35.9.22.101:8081/DeviceTracking/Device/Inventory". The page content includes a header "RFID Front End" and a main heading "Current Device Inventory". Below the heading is a "Show 10 Rows" dropdown menu and a search input field. A table displays four device entries with columns for RFID Tag Number, Type, Manufacturer, Name, OS, OS Version, and Checked Out? (with checkmarks). At the bottom, it says "Showing 1 to 4 of 4 entries" and has "Previous" and "Next" navigation buttons.

RFID Tag Number	Type	Manufacturer	Name	OS	OS Version	Checked Out?
1234	2	Apple	Internal App Tester	iOS	6.0	✓
2357	1	Apple	Tester Phone	iOS	7.0	✓
7576	4	Nokia	Stress Tester	Android	4.0	✓
9876	3	Samsung	App Compatability Tester	Android	4.4	✓



RFID Scanner

```
...mpresser");
...ow contains");
...);

...
... when done with t
... ating postList, a
... E, READER_HOSTNAM
... Complete. PostList
... st)
... );
... ");
... st)
... g))
... evice with tag "

... st)
... g))
... evice with tag " + tag + " was put back in the cabinet.");
```

```
C:\Windows\system32\cmd.exe
Hit enter to begin reading.
Snapshotting device inventory. . .
Snapshot complete.
preList now contains
0000000000000000000000000095,0000000000000000000000000096.Hit enter when done with the cabinet.

Now generating postList, and then the diff.
Snapshot Complete. PostList now contains
0000000000000000000000000090, 0000000000000000000000000095, 0000000000000000000097, 00
000000000000000000000094, Diff time!

Device with tag 000000000000000000000096 was taken out of the cabinet.
Device with tag 000000000000000000000090 was put back in the cabinet.
Device with tag 000000000000000000000097 was put back in the cabinet.
Device with tag 000000000000000000000094 was put back in the cabinet.
```



Badge Scanner

```
file:///C:/Users/Team Quicken Loans/Documents/Visual Studio 2013/Projects/quicken-loans-front-...
Waiting for scanned badge...
27273
Scanned user with ID 27273
Authenticated user Josh Razor, with ID 27273
Waiting for scanned badge...
30328
Scanned user with ID 30328
Authenticated user Jacob Riesser, with ID 30328
Waiting for scanned badge...
515674
Scanned user with ID 515674
Could not retrieve from API with error message:Response status code does not indicate success: 404 (Not Found).
Waiting for scanned badge...
notavalidID
Invalid ID.
Waiting for scanned badge...
```



What's left to do?

- The locking system
- Fully implement RFID scanner diff
- BadgeAuth console – who is grabbing stuff?
- Front end/API – expand functionality