

MICHIGAN STATE

UNIVERSITY

Beta Presentation

Transaction Anomaly Detection

The Capstone Experience

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From Students...
...to Professionals

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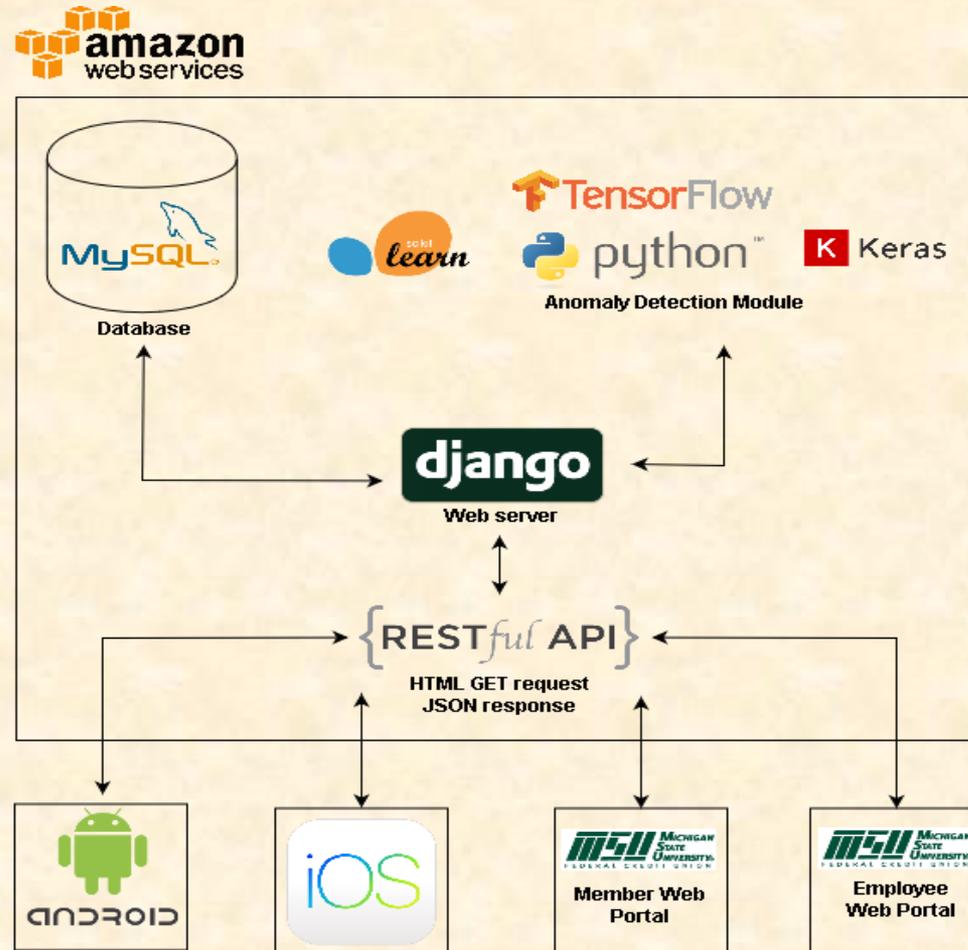
Fall 2018

Project Overview

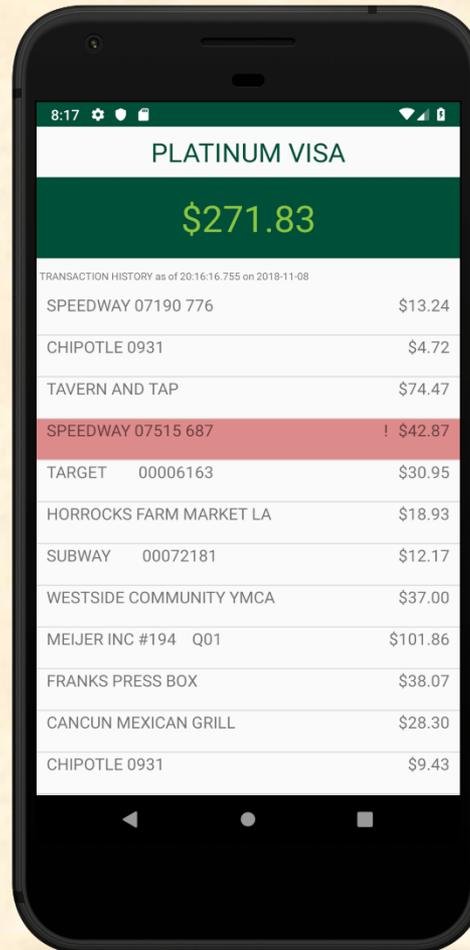
- Detect and alert users of anomalous transactions
 - Fraud / account takeover
 - Changes in recurring payments
- Provide visualization of member spending habits
- Implement anti-money laundering rules according to Bank Secrecy Act
 - Stretch goal



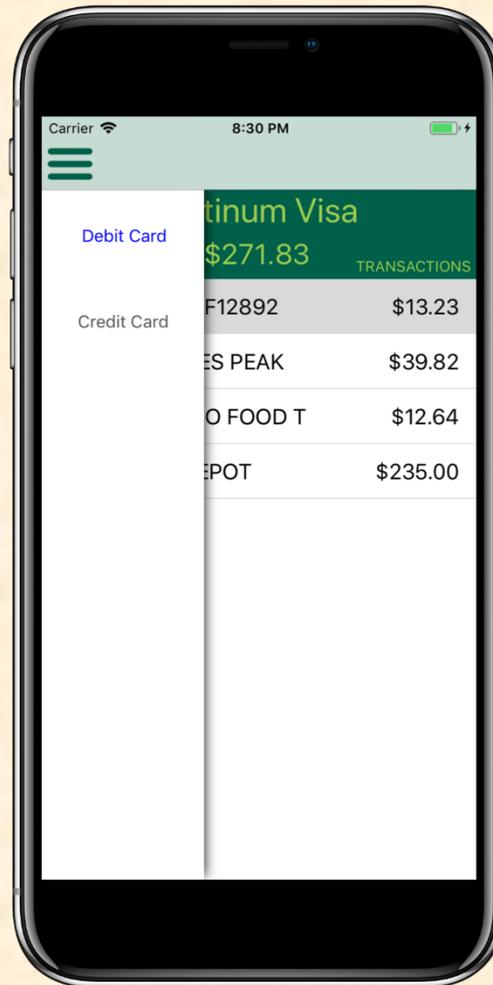
System Architecture



Android Member Account View



iOS Member Transaction View



Member Facing Web Portal

The screenshot shows a web browser window with the URL `127.0.0.1:8080/#/transactions`. The page header includes the MSU logo and navigation links for Alerts, Manage, and Sign Out. The main content is titled "Transaction and Anomaly Monitoring" and "Account Summary".

Debit Card #4888882272342082 (Balance: \$843.29)

Date	Acceptor	State	Post Amount
9/9/2018	SPEEDWAY 07190 776	MI	13.24
9/9/2018	CHIPOTLE 0931	MI	4.72
9/8/2018	TAVERN AND TAP	MI	74.47
9/7/2018	SPEEDWAY 07515 687	MI	42.87
9/7/2018	TARGET 00006163	MI	30.95

Show more

Credit Card #4888889295027111 (Balance: \$2,423)

Date	Acceptor	State	Post Amount
8/19/2018	MCDONALD'S F12892	KY	13.23
8/14/2018	ARAMARK PIKES PEAK	CO	39.82

Employee Facing Web Portal

The screenshot shows a web browser window with the URL `127.0.0.1:8080/#/admin/`. The page header includes the MSU logo and the text "Transaction and Anomaly Monitoring". Below the header, there is a navigation bar with "Alerts" and "Manage" icons, and a "Sign Out" button. The main content area is titled "Administration" and contains a table with the following columns: "Date", "Acceptor", "State", and "Post Amount".

Date	Acceptor	State	Post Amount
3/1/2018	SAINSBURYS	NULL	0
09/09/2018			
09/09/2018			
09/09/2018			
09/09/2018			

A modal window titled "Transaction" is open, displaying the following details:

- Date: 3/1/2018
- Acceptor: SAINSBURYS
- Location: UNIT 10-263 BANBURY ROA, OXFORD, NULL
- Amount: \$0

At the bottom of the modal, there are three buttons: "View similar transactions", "Flag as fraud", and "Close".

What's left to do?

- Optimize fraud detection model
- Improve user interface
- Fix bugs with mobile applications
- Refine recurrent payment anomaly



Questions?

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