MICHIGAN STATE UNIVERSITY Project Plan Consumer Payroll Check Cashing Analytics

The Capstone Experience

Team Meijer

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From Students... ...to Professionals

Project Overview

- Meijer has a Payroll Check Cashing System
- Possibilities of fraudlent checks
- Develop a web-based system for reporting and analyzing features
- Send out alerts based on trend data
- Goal is to provide a web system in order to be used to lower the amount of fraudulent checks

Functional Specifications

Ad Hoc Reporting

Generate reports on the fly

- Customer Browse
 - Browse and search by customer name/ID
- Customer Record
 - View data for particular customer
- Activity Dialog
 - View/edit details for a customer activity

Functional Specifications

- Reporting Framework
 - Deploy reports to the check cashing system
- Predictive engine
 - Predict check fraud based on trending data
- Authentication and Security
 - Develop remotely to be deployed on a secure Meijer server due to secure nature of data

Design Specifications

- System Features
- Reports
 - Fraud Analysis Report
 - Transaction Trending Report
- Graphical User Interface
 - Ad-Hoc Reporting Screen
 - Customer List Screen
 - Customer Record Screen
 - Reports Screen

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2341 Johr	n Doe	1/1/1989	Michigan State University	Active Customer	1/1/2010	Action Type	Decline
2341 Johr	n Doe	1/1/1989	Michigan State University	Active Customer	1/1/2010	Action Type	Decline
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A1212341

A1212341

John Doe

John Doe

1/1/1989

1/1/1989

Active Customer

Active Customer

1/1/2010

1/1/2010

Action Type

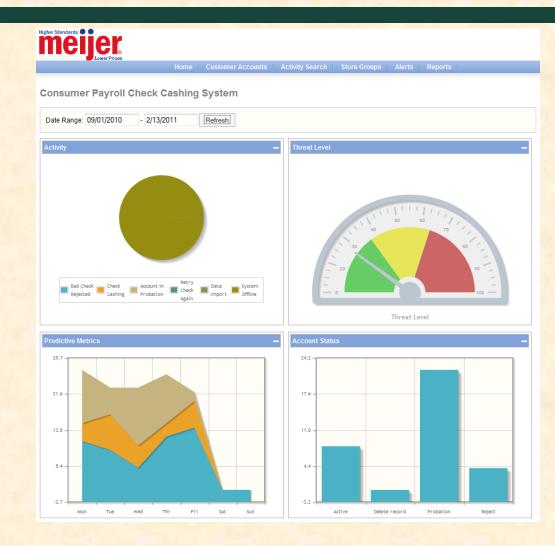
Action Type

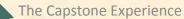
Declined

Declined

Michigan State University

Michigan State University







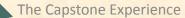
Home Customers Activity Search Reports Utilities

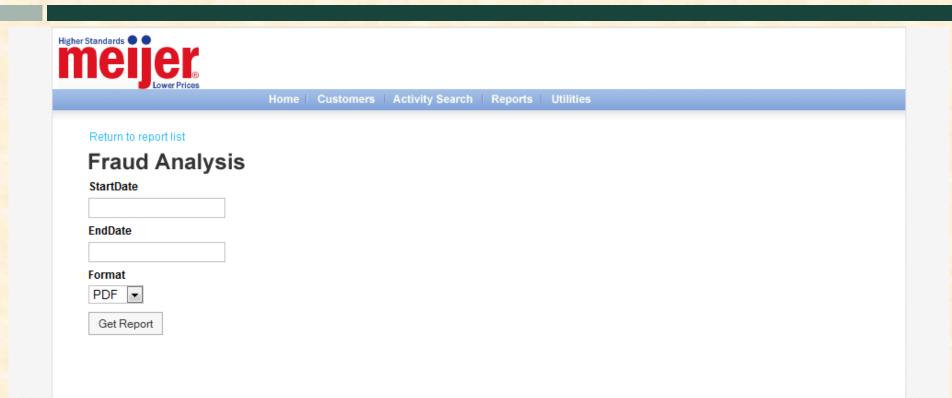
John Doe (A1212341)

Customer Name	John Doe
Enrolment Date	1/1/2009
Date of Birth	1/1/1989
Account Status	Active Account

Employer Name	Michigan State University
Employer Number	EMP123215

Activity Log						
	Activity Date	Action Type	Activity Status			
View	1/1/2010	Action Type	Declined			
View	1/1/2010	Action Type	Declined			
/iew	1/1/2010	Action Type	Declined			





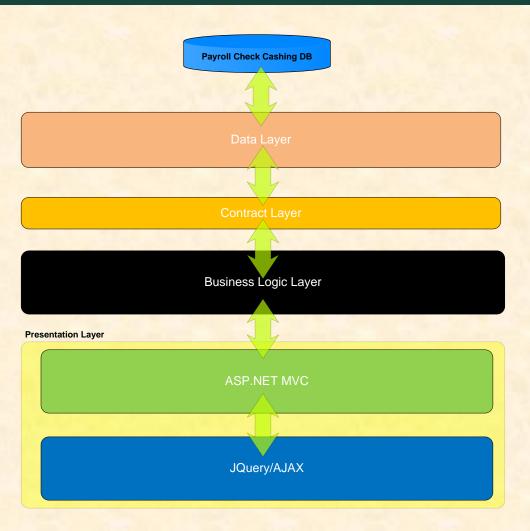
Technical Specifications

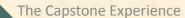
- Operating System: Windows 2008
- Web-server: IIS 7/6
- Development Framework: ASP.NET MVC
- Client-Side Framework: JQuery
- Reporting Framework: SQL Server Reporting Services
- Database Model: SQL Server 2008
- Source Control: SVN
- Continuous Integration: Cruise Control
- Build Framework: MSBuild

System Architecture

- Agile Development/SCRUM
- Layered Architecture
 - Contracts Layer: Interfaces between the data layer and the business logic layer
 - Data Layer: Contain basic information on connecting to the database
 - Business Layer: Takes a request from the presentation layer and use it as a filter for the entries in the data layer
 - Presentation Layer: Pulls data from the business layer and displays it on the screen

System Architecture





System Components

- Hardware Platforms
 - Windows Server 2008 OS on Rack Mount
- Software Platforms / Technologies
 - SQL Server
 - Visual SVN Server
 - Cruise Control.NET
 - Meijer Test Database
 - Visual Studio 2010
 - Pivotal Tracker

Testing

- User Acceptance Testing
- Unit Testing
- Features To Be Tested
 - Ad Hoc Reporting
 - Customer Browse
 - Upload Check Images
 - Reporting Framework
 - Authentication & Security
 - Fraud Analysis Report

Risks

- Technical Errors (Server/Client Bugs Reported by User)
 - Create report in pivotal tracker
 - Work on technical errors within the same sprint
- User Requires Changes/Tweaks
 - Short 2 week sprints for user acceptance testing
 - Make changes at a fast pace within next sprint
- Scalability or Underlying Data Model Changes
 - Separate project out into layers
 - Reduce refactoring
 - Increase testability
- Predictive Alerts Engine Parameters
 - Make engine scalable