Project Plan
Consumer Payroll Check Cashing Analytics

The Capstone Experience

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Project Overview

• Meijer has a Payroll Check Cashing System
• Possibilities of fraudulent 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
## Screen Mockups

### Table

<table>
<thead>
<tr>
<th>Account #</th>
<th>Customer</th>
<th>DOB</th>
<th>Employer</th>
<th>Account Status</th>
<th>Activity Date</th>
<th>Action Type</th>
<th>Activity Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>View</td>
<td>A1212341</td>
<td>John Doe</td>
<td>1/1/1989</td>
<td>Michigan State University</td>
<td>Active Customer</td>
<td>1/1/2010</td>
<td>Action Type</td>
</tr>
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</tbody>
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Screen Mockups
Screen Mockups

**John Doe** (A1212341)

<table>
<thead>
<tr>
<th>Customer Name</th>
<th>John Doe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolment Date</td>
<td>1/1/2009</td>
</tr>
<tr>
<td>Date of Birth</td>
<td>1/1/1989</td>
</tr>
<tr>
<td>Account Status</td>
<td>Active Account</td>
</tr>
<tr>
<td>Employer Name</td>
<td>Michigan State University</td>
</tr>
<tr>
<td>Employer Number</td>
<td>EMP123215</td>
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</tbody>
</table>

### Activity Log

<table>
<thead>
<tr>
<th>Activity Date</th>
<th>Action Type</th>
<th>Activity Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/1/2010</td>
<td>Action Type</td>
<td>Declined</td>
</tr>
<tr>
<td>1/1/2010</td>
<td>Action Type</td>
<td>Declined</td>
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Screen Mockups

Fraud Analysis

Start Date

End Date

Format
PDF

Get Report
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

- **Payroll Check Cashing DB**
- **Data Layer**
- **Contract Layer**
- **Business Logic Layer**
- **Presentation Layer**
  - **ASP.NET MVC**
  - **JQuery/AJAX**
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