From Students…
…to Professionals

Project Plan Presentation
Digital Transformation of Member Data

The Capstone Experience

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Project Sponsor Overview

• Michigan State University Federal Credit Union (MSUFCU) has been the banking service of Michigan State University since 1937

• MSUFCU serves over 331,000 members and has nearly $7 billion in assets

• MSUFCU supports the surrounding communities through charity events, volunteer work, and other community programs
Project Functional Specifications

• The MSUFCU app will analyze transaction data and suggest Local Loyalty partners based on user shopping habits
• These are alternative stores to shop at, offering discounts and rewards to MSUFCU members
• MSUFCU members will be able to transfer funds in-network easier by enhancing M2M systems
  ▪ NFC tap-to-pay
  ▪ Username handles
  ▪ QR codes
Project Design Specifications

• Menu within app that contains offers for businesses in the Local Loyalty Program, organized by distance and usefulness
• Member lookup feature using usernames and scannable QR codes integrated into existing M2M interface
• Push Notifications for Local Loyalty Program suggestions.
• Prototypes for both iOS and Android.
Screen Mockup: Local Loyalty List

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Screen Mockup: QR Code for M2M
Screen Mockup: Notification for Local Loyalty
Screen Mockup: New M2M Payment Screen
Project Technical Specifications

• Give MSUFCU members suggestions on local discounts based on the results of text analysis and their spending habits
• Expand P2P(peer-to-peer) payment features by allowing MSUFCU users to send and receive money through QR code and NFC technology securely
Project System Architecture

Mobile Applications

Flutter & Dart

IOS

Android

Database

PHP based web service

MySQL

ML toolkit

JSON
Project System Components

• Hardware Platforms
  ▪ Android mobile devices
  ▪ IOS mobile devices

• Software Platforms / Technologies
  ▪ Flutter SDK 3.3.2
  ▪ Dart
  ▪ MySQL
  ▪ PHP
  ▪ ML Kit
Project Risks

• Adding platform-specific features to Flutter applications
  ▪ To solve this, we can build the bulk of our applications using Flutter, then add platform-specific features using Swift and Kotlin afterwards

• Displaying region-specific Local Loyalty offers
  ▪ Organize partners by region, and serve offers based on user location data

• Recommending Local Loyalty partners based on products purchased
  ▪ Analyze products sold by non-partnered businesses and determine if partnered businesses sell similar products

• Communicating between devices using NFC
  ▪ Investigate how NFC works and how to securely transfer money between members using NFC
Questions?