Project Plan
Customer Service System with Chatbot

The Capstone Experience

Team Phoenix Group

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Functional Specifications

• Phoenix Group
  ▪ Credit Card Point of Sale Terminals
  ▪ Manuals (QRGs) are physical
  ▪ Customer service is time consuming

• Improve Customer Service
  ▪ Digitize hard copies of manuals
  ▪ Chatbot: FAQs
Design Specifications

• QRG Management Application
  ▪ Browse and search by keywords
  ▪ View QRG as an e-book
  ▪ Add QRGs using tablet camera
  ▪ Edit QRG information

• Web-based Chatbot
  ▪ Chat window on website
  ▪ Customers can ask general questions
Screen Mockup: QRG Home Screen

Quick Reference Guide Viewer

Search for QRG ...

advanced QRG search

Hello, Amanda

Add QRG

VERIFONE VX 680
XEVA440
RETAIL

First Data FD130
750FD130
RETAIL

VERIFONE VX 520
XEVA440
RESTAURANT

showing top viewed
Screen Mockup: QRG View Screen
Screen Mockup: QRG Edit Screen
**Screen Mockup: QRG Admin Screen**

### Quick Reference Guide Viewer

<table>
<thead>
<tr>
<th>User</th>
<th>Privileges</th>
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<tr>
<td>John Taylor</td>
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<td>Sydney Watson</td>
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**Sarah Tichen:**
- ![User icon] + ![Edit icon] **grant admin**
- ![Add icon] **revoke add**
- ![Edit icon] **revoke edit**
Screen Mockup: Chatbot
Technical Specifications

• QRGs Manager
  - Windows Optical Character Recognition (OCR) API for feature extraction.
  - Windows Automatic Speech Recognition (ASR) API for voice commands.

• Chatbot
  - Microsoft LUIS for Natural Language Processing.

• MongoDB database
  - Store/query QRGs.
  - Query the answers to the Chatbot questions.
  - MongoDB C# Driver for the database interactions
System Architecture
System Components

• Hardware Platforms
  ▪ Windows 10 Surface Pro/Desktop
  ▪ Local Windows 2012 R2 server

• Software Platforms / Technologies
  ▪ QRGs Manager
    o Universal Windows C# Framework in Visual Studio
  ▪ Chatbot
    o Microsoft Bot Framework
Risks

• Optical Character Recognition
  ▪ Process image and extract relevant info
  ▪ *Various lighting conditions and angles*

• Data Transfer Speed
  ▪ Searching through hundreds of QRGs
  ▪ *Stress test the data transfer rate*

• ASR
  ▪ Both open-source and accurate
  ▪ *Test various packages*

• UI
  ▪ Getting UI to look good on any device
  ▪ *Test UI on tablets and desktops*
Questions?