Project Plan Presentation
Injury and Damage Data Quick Access App

The Capstone Experience
Team United Airlines Airport Operations

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Project Sponsor Overview

• Headquartered: Chicago, IL
• Founded 1926 in Boise, Idaho
• Publicly traded international airline
  ▪ Top 5 Airline by Revenue
  ▪ 2019 Revenue: $40.8B
Functional Specifications

• United Airlines wants to increase safety measures
  ▪ **Problem**: Current system is web-based containing excessive data
  ▪ **Solution**: Mobile app that displays information quick
• IDDQA App has multiple benefits and perks
  ▪ Access information about damages and injuries in separate sections
  ▪ Filter data results under multiple conditions
    o Range of dates, OSHA, # of investigations, seniority, etc.
• Results are accessible via email sharing
• Application is available on both iOS and Android Systems
Design Specifications

- **Home Menu**
  - Contains two buttons: Injury and Damage
  - Each option brings the user to specific filters
- **Injury Filter**
  - Designed to refine the injury incident(s) the user is looking for
- **Damage Filter**
  - Designed to refine the damage incident(s) the user is looking for
- **Feedback Window**
  - Displays the number of incidents that occurred year by year
  - Provides the option to view the filter options selected
  - Provides the option to share the outputted data via email
Screen Mockup: Home Menu

iOS

Android
Screen Mockup: Damage Filter

iOS

Android
Screen Mockup: Injury Report

iOS

Android
Screen Mockup: Damage Report

Left Wing Damage

Date Range:
05/07/2001 to 08/29/2007

Seniority Range:
<1 year to 5 years

Investigation totals: 2

Station: ORD

Damage: Left Wing

<table>
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Share

iOS

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Share

Android
Technical Specifications

• Mobile Application
  ▪ Access on personal phones

• Microsoft Power Apps
  ▪ Frontend
  ▪ Backend
  ▪ Deployment

• Client Data
  ▪ SQL Server
  ▪ SharePoint Data

• Data sharing via email
System Architecture

Data Storage

Microsoft SQL Server

SharePoint

Development Environment

Microsoft PowerApps

iPhone (iOS)

Android Phone

User
System Components

• Hardware Platforms
  ▪ Android Phone
  ▪ Apple iPhone (iOS)

• Software Platforms / Technologies
  ▪ Microsoft Power Apps
    o Seamless integration with data access points
    o Trivial deployment
    o Increased security
    o Need Wi-Fi connection for all development
  ▪ Client databases
    o SQL Server – access with service account
    o SharePoint Data
Risks

• Connecting Application to Different Databases
  ▪ Need to connect and merge data from a SQL server and SharePoint, data could be inaccurate
  ▪ Mitigation: Continuously test and compare results from application with Client’s web application results

• Data Visualization
  ▪ How our data will be displayed is still unknown
  ▪ Mitigation: Connect with Client and present multiple different visualizations via mockups

• Behavior of Application
  ▪ How the application will behave after the data report is shared is still unknown
  ▪ Mitigation: Connect with Client to decide what behavior would be the most appropriate for the application users
Questions?