Alpha Presentation
Training Scheduling and Optimization System II
The Capstone Experience
Team United Airlines

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Project Overview

- Update and enhance the training scheduling system from the spring semester
- Make the web application responsive for mobile and tablet devices
- Implement an optimizer to recommend a schedule based off different priorities
- Expand the functionality of the application’s calendars to include filtering, a course calendar, and more
System Architecture

Clients

- PC User
- Mobile User

Azure Cloud Platform

- Azure App Service
- Azure SQL Database

Front End UI
- HTML
- CSS
- JS

Back End API
- .NET Core
- Entity Framework

Data Source
- Microsoft SQL Server
Calendar Expansion

Learning Scheduling System

Class Filter: Location Filter: den

- DEN: DEA Hangar: 1041-A
- DEN: DEA Hangar: 1041-B
- DEN: FTC: A001
- DEN: FTC: A003
- DEN: FTC: A003
- DEN: FTC: A001
- DEN: Local

October 2019

13 14 15 16 17 18 19

737/Max Systems / Avionics Differences

B777 Systems Avionics and Reliability (2 Week)
Schedule Optimizer – 1 of 2

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### Learning Scheduling System

Optimize schedule from: **10/20/2019** to **12/20/2019**

<table>
<thead>
<tr>
<th>Action</th>
<th>Course Code</th>
<th>Course Title [hrs]</th>
<th>Start Time</th>
<th>Location</th>
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<tbody>
<tr>
<td></td>
<td>POTS</td>
<td>Principles OF Troubleshooting [24]</td>
<td>08:00:00</td>
<td>EWR</td>
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<td>7875A2</td>
<td>B787 Systems Avionics (3 Week) [120]</td>
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<td>EWR</td>
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<td>TS20</td>
<td>Taxi/Engine Run Student A319/A320 [16]</td>
<td>10:00:00</td>
<td>LAX</td>
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<tr>
<td></td>
<td>SMSPT</td>
<td>SMS and Your Role [8]</td>
<td>10:00:00</td>
<td>ORD</td>
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<tr>
<td></td>
<td>AHMAB</td>
<td>AHMAB: Health Monitoring Airbus Company [8]</td>
<td>12:00:00</td>
<td>HOU</td>
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<tr>
<td></td>
<td>WGH1</td>
<td>Aircraft Weigh Training [8]</td>
<td>09:00:00</td>
<td>DEN</td>
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<tr>
<td></td>
<td>77ENG</td>
<td>B777 Engine Systems [24]</td>
<td>09:00:00</td>
<td>HOU</td>
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<tr>
<td></td>
<td>AHMAB</td>
<td>AHMAB: Health Monitoring Airbus Company [8]</td>
<td>12:00:00</td>
<td>DEN</td>
</tr>
</tbody>
</table>
Schedule Optimizer – 2 of 2

Optimizer Results

Classes Not Included In Results

Add Results to Planner
New Mobile Styling
What’s left to do?

• Improving the optimizer
• OAM alternative user authentication
• Conflict notifications for planner
• Class roster expansion
• Drag and drop calendar
• Browser compatibility (Internet Explorer)
• Additional user feedback and validation prompts
Questions?