

MICHIGAN STATE

UNIVERSITY

Beta Presentation

Training Scheduling and Optimization System III

The Capstone Experience

Team United Airlines Training

Amanda Hackbardt

Weiyu Huang

George Poliakov

Sam Vitu

Sean Wisely

Department of Computer Science and Engineering
Michigan State University

Spring 20



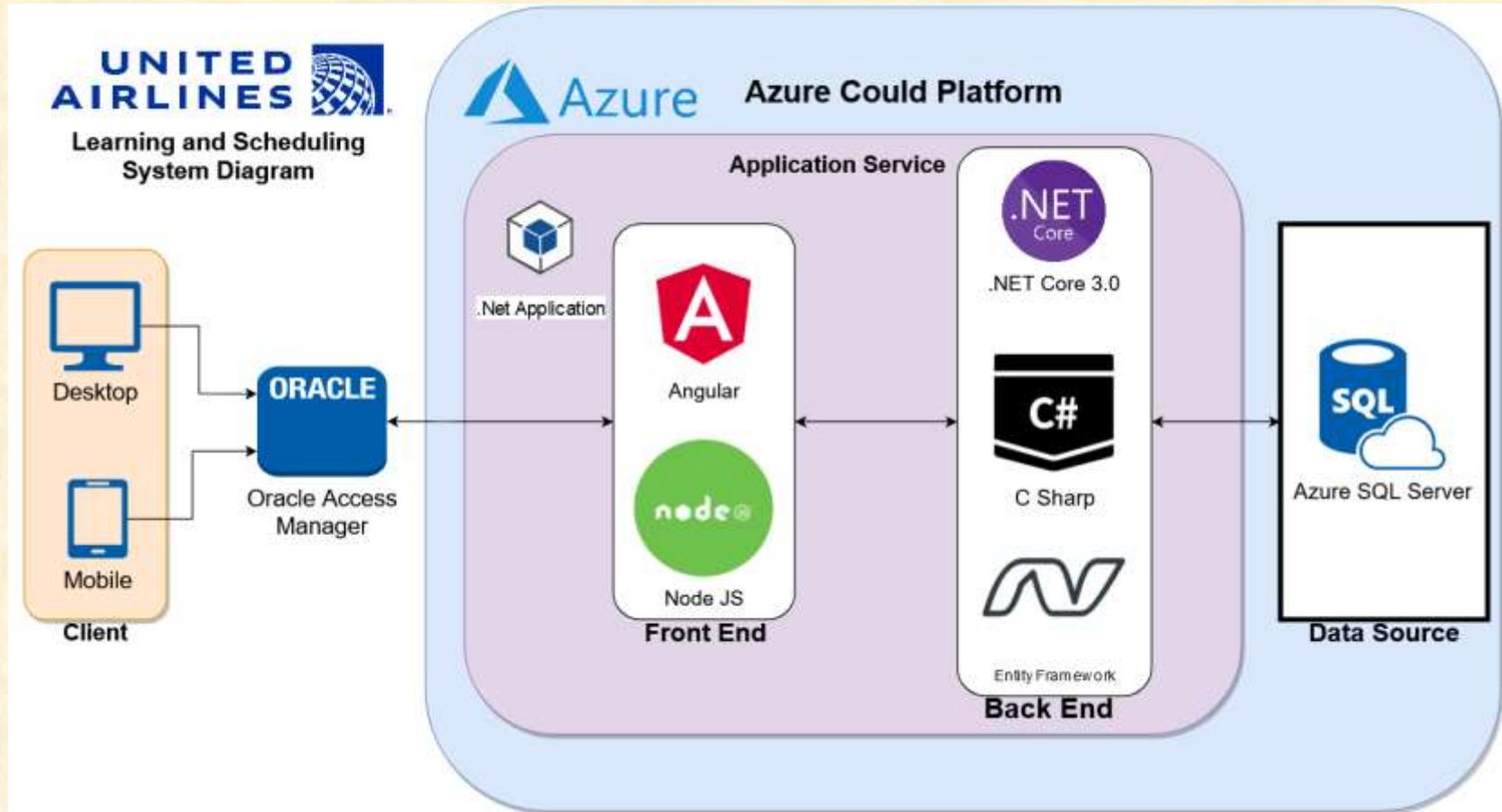
*From Students...
...to Professionals*

Project Overview

- Improved upon the Learning Scheduling System from the 2 previous capstone teams
- Reimagined scheduling workflow with notification and calendar upgrades
- Build in future scalability for data with administrative pages
- Improve visibility into instructor time usage with reports



System Architecture



Admin Pages

The screenshot displays the 'Learning Scheduling System' admin interface. The browser address bar shows 'localhost:5001/admin/locations'. The page features a dark blue header with the 'UNITED' logo and the user name 'Mcdaniel, Lynda'. A navigation menu on the left lists various system functions. The main content area is titled 'Locations' and includes a search bar, an 'Export' button, and an 'Add Location' button. A table lists several airport locations with their respective codes, point statuses, and active flags. A tooltip is visible over the 'LCH' entry, indicating it was updated by Mcdaniel on Fri Apr 03 2020.

Action	Code	Point	Active
	EWR	True	Yes
	LCH	Updated by Mcdaniel on Fri Apr 03 2020 00:22:51 GMT-0400 (Eastern Daylight Time)	Yes
	LAX	False	Yes
	JFK	False	Yes
	JCT	False	Yes
	IAH	False	Yes
	IAD	False	Yes
	HOU	False	Yes
	HNL	False	Yes
	GUM	False	Yes
	BDL	False	Yes



Admin Pages Continued

The screenshot displays the 'Learning Scheduling System' admin interface. A modal window titled 'Add Location' is open, showing a form to 'Add a New Location'. The form includes the following fields:

- Location Code:** A text input field containing 'DET'.
- Point:** A dropdown menu currently set to 'No'.
- Latitude:** A text input field containing '42.2162'.
- Longitude:** A text input field containing '-83.3554'.

At the bottom of the modal are 'Cancel' and 'Add' buttons. In the background, a table lists existing locations with columns for Location Code, Point, Latitude, Longitude, and Status.

Location Code	Point	Latitude	Longitude	Status
IAD	False			Yes
HOU	False			Yes
HRL	False			Yes
GUM	False			Yes
BOL	False			Yes



Email Notifications

The screenshot displays the Learning Scheduling System interface. A modal dialog box titled "Send email now?" is centered on the screen. The dialog contains the following text and form fields:

Send email now?

Would you like to send an email now, in order to notify others that you have made this change?

Emails to be notified:

Subject:

Good Afternoon, Please be advised the following class has been added to the schedule: • TS379 | IAD(Local) | 4/27/20 - 4/28/20 | 07:00:00 - 15:00:00 | Instructor(s): Michael Murphy All systems have been updated. Thanks, Lynda McDaniel

Additional Notes to add onto Email:

Buttons: Cancel, Send

The background interface shows a sidebar with navigation options: HOME, CALENDARS, COURSE SCHEDULE, SCHEDULE PLANNER, ADD A CLASS, SCHEDULE OPTIMIZER, CONFLICT OVERVIEW, TRAINING REQUESTS, BOOK CLASSROOM, COURSE CATALOG, EXCEPTIONS, INSTRUCTOR QUALIFICATIONS, and SCHEDULE CHANGE. The main content area includes a search bar, an "Action" column with icons, and a table with columns for Time, Location, Room, Point, and S.



Confirm Classroom Request

The screenshot displays the 'Learning Scheduling System' interface. The browser address bar shows 'https://localhost:5001/classroom-requests'. The page title is 'Learning Scheduling System' and the user is logged in as 'Mcdaniel, Lynda'. A sidebar on the left contains navigation links: HOME, CALENDARS, COURSE SCHEDULE, SCHEDULE PLANNER, ADD A CLASS, SCHEDULE OPTIMIZER, CONFLICT OVERVIEW, TRAINING REQUESTS, BOOK CLASSROOM, COURSE CATALOG, EXCEPTIONS, INSTRUCTOR QUALIFICATIONS, ATTENDANCE, ADMIN, REPORTS, and Scheduler. The main content area is titled 'Classroom Schedule' and features a 'History' tab. Below the title is a table with the following data:

Action	Name	Location	Room #	People	Phone	Email	Start Date	End Date	Comment
Approved	Harold Dunlap	EWR	213	5	2138421791	Dunlap90@yahoo.com	04/02/2020, 10:16	04/03/2020, 10:16	
	Takisha Jone	EWR	217	10	7083199913	takisha22@gmail.com	04/02/2020, 10:26	04/03/2020, 10:26	
	Priscilla Navarro	ORD	9	55	6199963127	navarro1@gmail.com	04/03/2020, 19:01	04/04/2020, 19:01	



Location Calendar

Learning Scheduling System

URL: <https://localhost:5001/scheduleCalendar/locationScheduler>

Legend: Published (purple), Planned (orange), Holiday (yellow), Published Request (red), Pending Request (teal)

Navigation: Previous Today Next

CALENDARS

- COURSE SCHEDULE
- SCHEDULE PLANNER
- ADD A CLASS
- SCHEDULE OPTIMIZER
- CONFLICT OVERVIEW
- TRAINING REQUESTS
- BOOK CLASSROOM
- COURSE CATALOG
- EXCEPTIONS
- INSTRUCTOR QUALIFICATIONS
- ATTENDANCE
- ADMIN
- REPORTS

Scheduler

Calendar Grid (April 2020):

Su	Mo	Tu	We	Th	Fr	Sa
29	30	31	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Request List:

- DEN: DIA Hangar: 1041-B
- DEN: FTC: A001
- DEN: FTC: A005
- DEN: FTC: A011
- DEN: Hangar Test Update: A124
- DEN: Local
- EWR: Hangar 100: 211
- EWR: Hangar 100: 212
- EWR: Hangar 100: 213
- EWR: Hangar 100: 217
- EWR: Hangar 55: Fr-2
- EWR: Hangar 55: Fr-3
- GUM: AO General Office: AT-3
- HNL: Hangar: A
- HOU: Building 2: 1
- HOU: Building 2: 4
- IAD: Hangar: 217
- IAD: Local
- IAD: Terminal : Gate-C

Request Details (Harold Dunlap):

Requester: Harold Dunlap
 Email: Dunlap90@yahoo.com
 Attendance: 5
 Start Date: 4/2/2020 (Thursday)
 End Date: 4/3/2020 (Friday)
 From 10:16 to 10:16

Request Status:

- Harold Dunlap (Published Request - Red)
- Takeshi Jones (Pending Request - Teal)



Editing Classroom Request

The screenshot displays the 'Learning Scheduling System' interface. A modal window titled 'Classroom Request' is open, allowing for the editing of a request. The modal contains the following fields:

- Requester: Priscilla Navarro
- Email: navarro1@gmail.com
- phone: 6199963127
- Location: ORD (dropdown menu)
- Attendance: 55
- Classroom: Current room: 9 (dropdown menu)
- Date: 04/03/2020 19:01 ~ 04/04/2020 19:01

At the bottom of the modal are 'Update' and 'Cancel' buttons. In the background, the 'History' table is visible with the following data:

Action	Name	Location
Approved	Harold Dunlap	EW
	Takisha Jone	EW
	Priscilla Navarro	ORD

The interface also includes a sidebar with navigation options such as HOME, CALENDARS, COURSE SCHEDULE, SCHEDULE PLANNER, ADD A CLASS, SCHEDULE OPTIMIZER, CONFLICT OVERVIEW, TRAINING REQUESTS, BOOK CLASSROOM, COURSE CATALOG, EXCEPTIONS, INSTRUCTOR QUALIFICATIONS, ATTENDANCE, ADMIN, and REPORTS. The user's name 'Mcdaniel, Lynda' is visible in the top right corner.



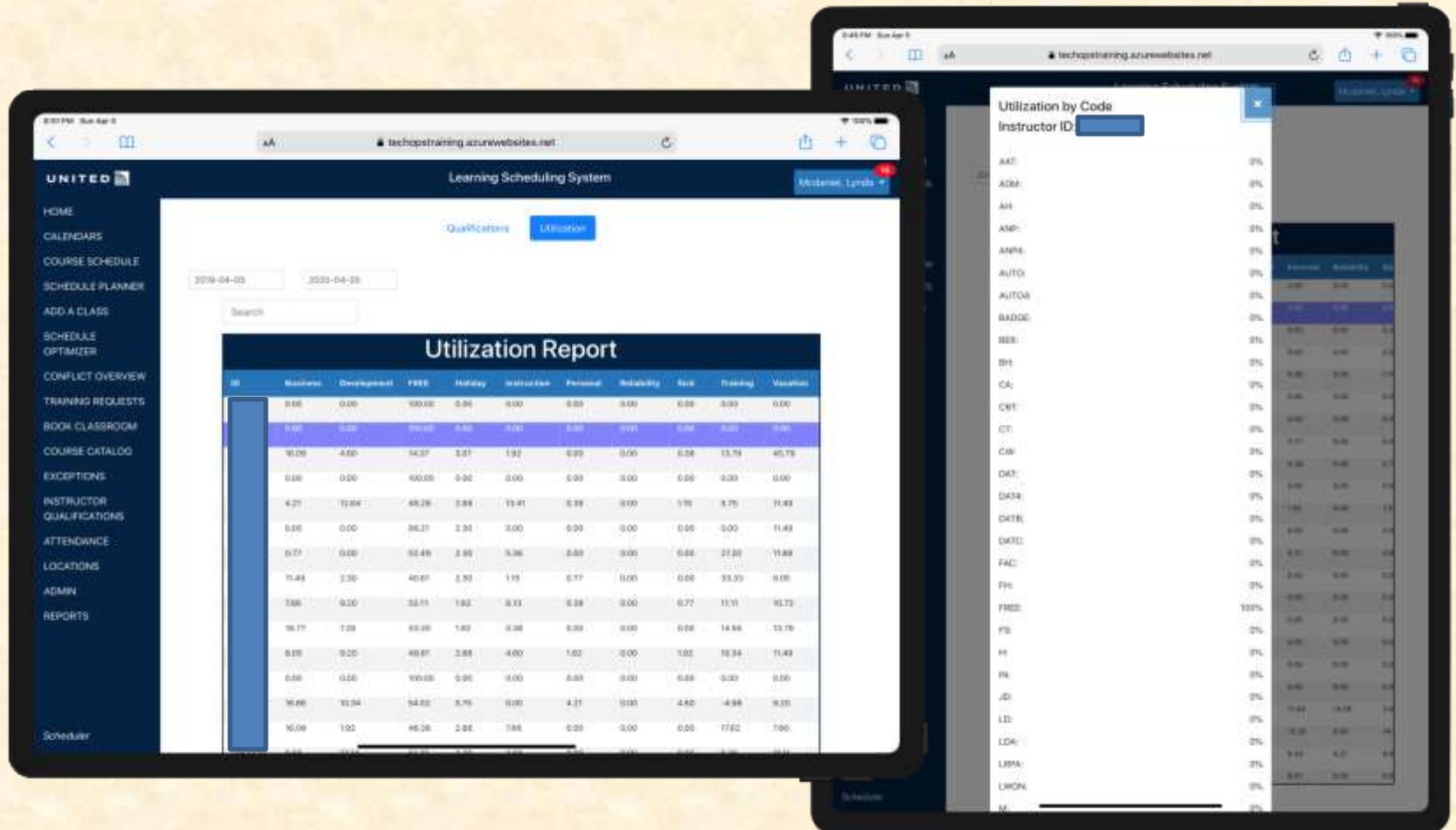
Qualifications Report

The screenshot displays the 'Learning Scheduling System' interface. At the top, there's a navigation bar with 'United' logo, 'Learning Scheduling System', and a user profile 'McDaniel, Lynda'. Below this, there are tabs for 'Qualifications' and 'Utilization'. A summary bar indicates the status of qualifications: 'Qualification is Up to Date' (10), '30 Days Until Qualification Needs Renewal' (3), and 'Qualification Needs Renewal' (0). A search box contains 'Taxi/Engine'. The main content is a 'Qualifications Report' table.

Instructor	Course Code	Course Title	Qualification	Date Last Taught
Adkins, Robert	T920	Taxi/Engine Run Student A318(A)320	Teach All	2/26/2018
Baez, Alberto	T5376	Taxi/Engine Run Student 8737-700/800/900	Teach All	1/30/2017
Baez, Alberto	T977	Taxi/Engine Run Student 8777-200	Teach All	2/28/2017
Baez, Alberto	T537	Taxi/Engine Run Student 8737-700/800/900/AAK	Teach All	7/20/2018
Barclay, Eddy	T977	Taxi/Engine Run Student 8777-200	Teach All	12/14/2013
Bottazzi, Gianni	T920	Taxi/Engine Run Student A318(A)320	Teach All	2/19/2013
Bottazzi, Gianni	T537	Taxi/Engine Run Student 8737-700/800/900/AAK	Teach All	7/20/2018
Bottazzi, Gianni	T9379	Taxi/Engine Run Student 8737-700/800/900	Teach All	1/30/2017
Carbone, Michael	T920	Taxi/Engine Run Student A318(A)320	Teach All	12/12/2016
Chú, Marín	T920	Taxi/Engine Run Student A318(A)320	Teach All	1/27/2018
Eigl, John	T9379	Taxi/Engine Run Student 8737-700/800/900	Teach All	12/4/2017
Eigl, John	T920	Taxi/Engine Run Student A318(A)320	Teach All	2/19/2018



Utilization Report



What's left to do?

- Link email notifications to emails in database
- Self-contained application publishing issue
- Additional OAM Field Testing
- FAQ Page Implementation
- Optimizer Testing
- Bug Resolution



Questions?

?

?

?

?

?

?

?

?

?

