

**MICHIGAN STATE**  

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**U N I V E R S I T Y**

# Beta Presentation

## Training Scheduling and Optimization System

The Capstone Experience

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

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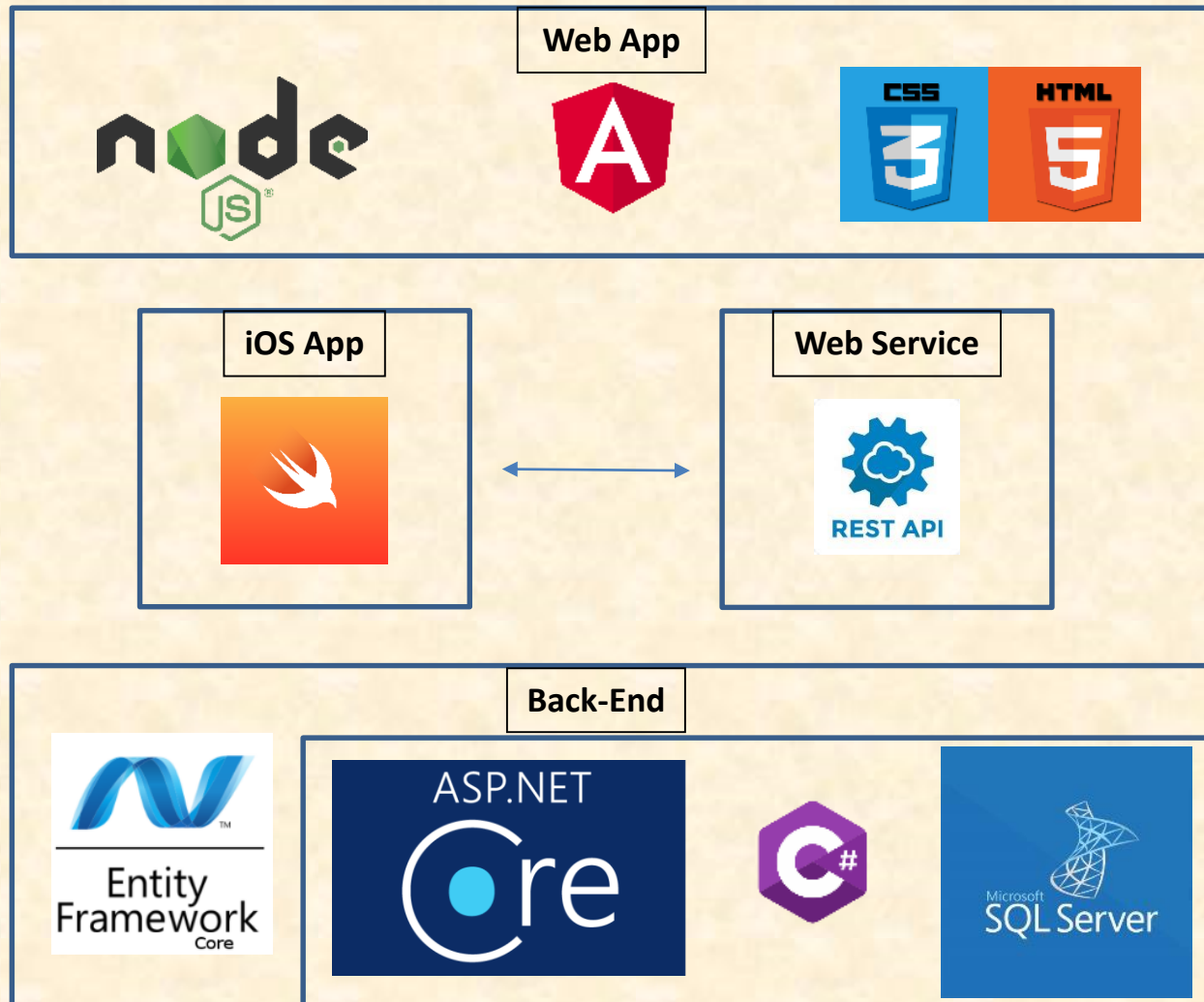
# Project Overview

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- Course scheduling system for maintenance training
- Instructor time tracking
- Rosters and attendance tracking
- Optimizer that suggests a course based on inputted attributes



# System Architecture



# Course Schedule

The screenshot displays the Learning Scheduling System interface. The browser address bar shows the URL `https://localhost:44337/schedule`. The page header includes the United logo and the text "Learning Scheduling System". A navigation menu on the left lists options: HOME, CALENDARS, EXCEPTIONS, COURSE SCHEDULE, SCHEDULE PLANNER, COURSE CATALOG, INSTRUCTOR QUALIFICATIONS, TRAINING REQUESTS, ATTENDANCE, and ADMIN. The main content area features a search bar and a "Course Schedule" table. The table has columns for Action, Course Code, Course Title [hrs], Start Date, End Date, Start Time, Room, Location, Point, Supervisor, and Instructor. The table contains 10 rows of course data.

Action	Course Code	Course Title [hrs]	Start Date	End Date	Start Time	Room	Location	Point	Supervisor	Instructor
	37MD	737MAX Systems / Avionics Differences [40]	4/1/19	4/5/19	08:00:00	2	CLE	SFO	Spoard, Alexandros	Butterey, Julie
	37MD	737MAX Systems / Avionics Differences [40]	4/1/19	4/5/19	08:00:00	1	CLE	SFO	Spoard, Alexandros	Butterey, Julie
	57DOOR	B757 Main Entry Door (MED) Rig [16]	5/6/19	5/10/19	16:10:00	A011	CLE	SFO	Robinson, Brody	Dale, Brnaba
	IBORE1	Borescope Fundamentals Initial [40]	5/7/19	5/17/19	05:35:00	A005	CLE	SFO SFO SFO	Dela, Gaspar Robinson, Brody Dela, Gaspar	Mcauslan, Kile Shiel, Augy Mcauslan, Kile
	MAG2	Magnetic Particle Theory (Practical) [8]	7/21/19	7/23/19	14:35:00	2	DEL	SFO	Garvey, Freedman	Robinson, Spense
	ETPT	ETOPS Initial Training [4]	11/1/19	11/2/19	08:45:00	A011	DEL	SFO	Robinson, Brody	Dale, Brnaba
	37MD	737MAX Systems / Avionics Differences [40]	3/26/19	4/1/19	01:01:00	A001	DEN	NHC	Robinson, Brody	Bessel, Currie
	37MD	737MAX Systems / Avionics Differences [40]	4/1/19	4/5/19	07:01:00	A001	DEN	EWR	Visor, Super	Or, Instruct
	37PNEU	B737 Pneumatic System Troubleshooting	4/9/19	4/11/19	06:00:00	A001	DEN	SFO	Robinson, Brody	Dale, Brnaba

# Exceptions

Learning Scheduling System

Code Start End Instructor Point Status

## Exceptions

Export Add Exeption

Action	Instructor	Point	Exception	Start Date	End Date	Request Time	Supervisor	Response Time	Request Comment	Response Comment
<span>✓</span> <span>✎</span> <span>✗</span>	Butterey, Julie	SFO	IN: Instructing Course	4/1/19	4/5/19	3/29/19, 11:07 AM	Spoard, Alexandros		<span>💬</span>	
<span>✓</span> <span>✎</span> <span>✗</span>	Or, Instruct	EWR	BH: Birthday Holiday	6/27/19	6/28/19	3/27/19, 6:24 PM	Visor, Super		<span>💬</span>	
<span>✓</span> <span>✎</span> <span>✗</span>	Or, Instruct	EWR	AH: Anniversary Holiday	4/27/19	6/27/19	3/27/19, 6:15 PM	Visor, Super		<span>💬</span>	
<span>✓</span> <span>✎</span> <span>✗</span>	Or, Instruct	EWR	ANP: Authorized No Pay	4/27/19	6/27/19	3/27/19, 6:12 PM	Visor, Super		<span>💬</span>	
Approved	Bessel, Currie	NHC	VAC: Vacation	6/20/19	6/21/19	2/23/19, 2:48 PM	Robinson, Brody	3/18/19, 5:33 PM		
Approved	Robinson, Spense	SFO	VAC: Vacation	4/10/19	6/25/19	2/20/19, 6:36 PM	Garvey, Freedman	2/20/19, 6:36 PM	<span>💬</span>	<span>💬</span>
Denied	Shiel, Augy	SFO	IN: Instructing Course	3/17/19	9/26/19	2/20/19, 6:36 PM	Robinson, Brody	2/20/19, 6:36 PM	<span>💬</span>	<span>💬</span>
Denied	Bessel, Currie	NHC	IN: Instructing Course	3/13/19	6/20/19	2/20/19, 6:36 PM	Robinson, Brody	2/20/19, 6:36 PM	<span>💬</span>	<span>💬</span>



# Training Requests

Learning Scheduling System

Uler, Sched

Code From To Coordinator Location Status

Search **Training Requests** Export Request Class

Action	Course	Location	Needed By	Shift	Reason	# of Students	Requested By	Requested Time	Contact	Comment
	737RELB1: B737 Reliability Training	BOS	6/30/19	Days	Operational	555	Nator, Coordi	3/31/19, 6:24 PM	bbb @kokk 555444333543	
	EDCL2: Eddy Current Level li	BOM	5/31/19	Mids	Other	446	Nator, Coordi	3/31/19, 6:22 PM	vgg@koi 11344567789	
Denied	67SA3: B767 Systems Avionics (2 Week)	CLE	5/1/19	Swings	Shift Bid	5	Nator, Coordi	3/31/19, 4:48 PM	Bhutto 42785	
Denied	67SA3: B767 Systems Avionics (2 Week)	BOM	5/1/19	Swings	New Hires	20	Nator, Coordi	3/31/19, 3:19 PM	test@United.com 1234567	
Denied	37MD: 737Max Systems / Avionics Differences	DEN	5/1/19	Days	New Hires	20	Nator, Coordi	3/31/19, 3:03 PM	lowenbri@msu.edu 2483962148	
Denied	757RRES: B757 Rolls Royce Etops Systems	EWR	4/30/19	Mids	Other	212	Nator, Coordi	3/27/19, 6:37 PM	libiranm@msu.edu 934580435908	
Approved	77SA3: B777 Systems Avionics (2 Week)	EWR	4/27/19	Swings	Operational	111	Nator, Coordi	3/27/19, 6:33 PM	libiranm@msu.edu 657884568456	



# Optimizer

The screenshot displays the 'Learning Scheduling System' interface. A modal dialog titled 'Optimizer' is open, showing the 'Optimize a Course' form. The form includes the following fields:

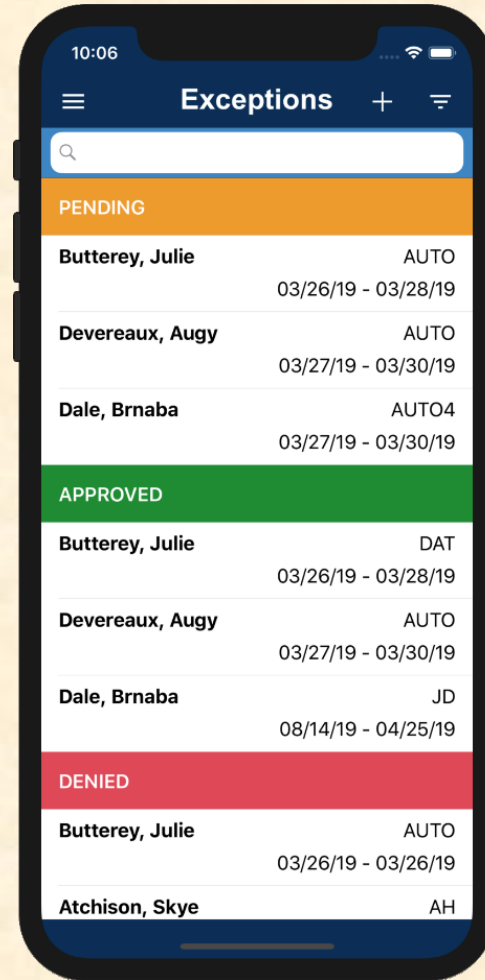
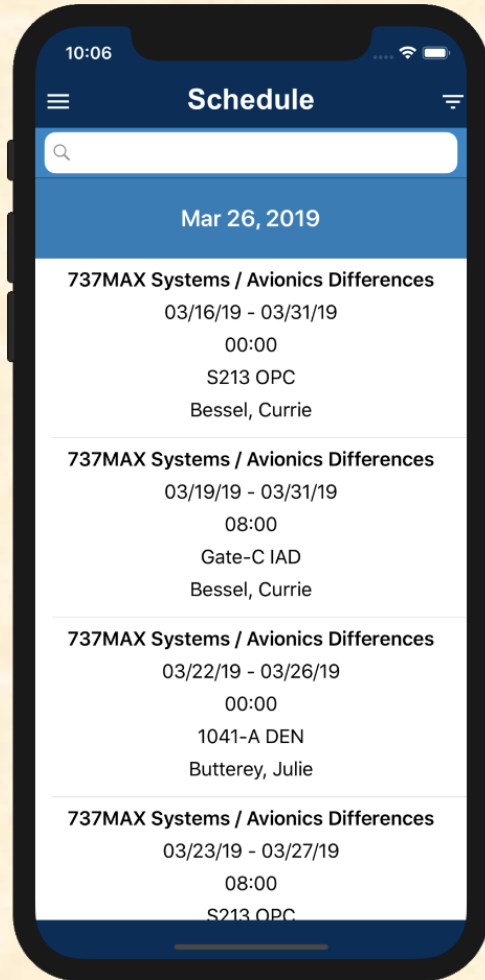
- Course:** 37PNEU: B737 Pneumatic System Troubleshooting (Hours: 16, Max Size: 6)
- Location:** EWR
- Instructor:** Dale, Brnaba
- Start Date:** 2019-04-02
- End Date:** 2019-04-20

Buttons for 'Cancel' and 'Optimize' are located at the bottom right of the dialog. The background interface shows a sidebar with navigation options like 'HOME', 'CALENDARS', 'EXCEPTIONS', 'COURSE SCHEDULE', 'SCHEDULE PLANNER', 'COURSE CATALOG', 'INSTRUCTOR QUALIFICATIONS', 'TRAINING REQUESTS', 'ATTENDANCE', and 'ADMIN'. The main content area features a table with columns for 'Room', 'Location', 'Point', 'Supervisor', and 'Instructor'. The table contains several rows of data, including entries for SFO, LAX, and DEN locations.

Room	Location	Point	Supervisor	Instructor
	SFO	SFO	Robinson, Brody	Dale, Brnaba
	LAX	NHC SFO	Robinson, Brody	Bessel, Currie Shiel, Augy
	LAX	SFO	Robinson, Brody	Dale, Brnaba
011	DEN	SFO	Garvey, Freedman	Mcclung, Griff
011	DEN	SFO	Garvey, Freedman	Mcclung, Griff



# iOS Application





# What's left to do?

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- UI enhancements
- Performance enhancements
- Bug fixes and stability
- Form feedback and user interaction



# Questions?

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