

MICHIGAN STATE
UNIVERSITY

Alpha Presentation

Training Scheduling and Optimization System

The Capstone Experience

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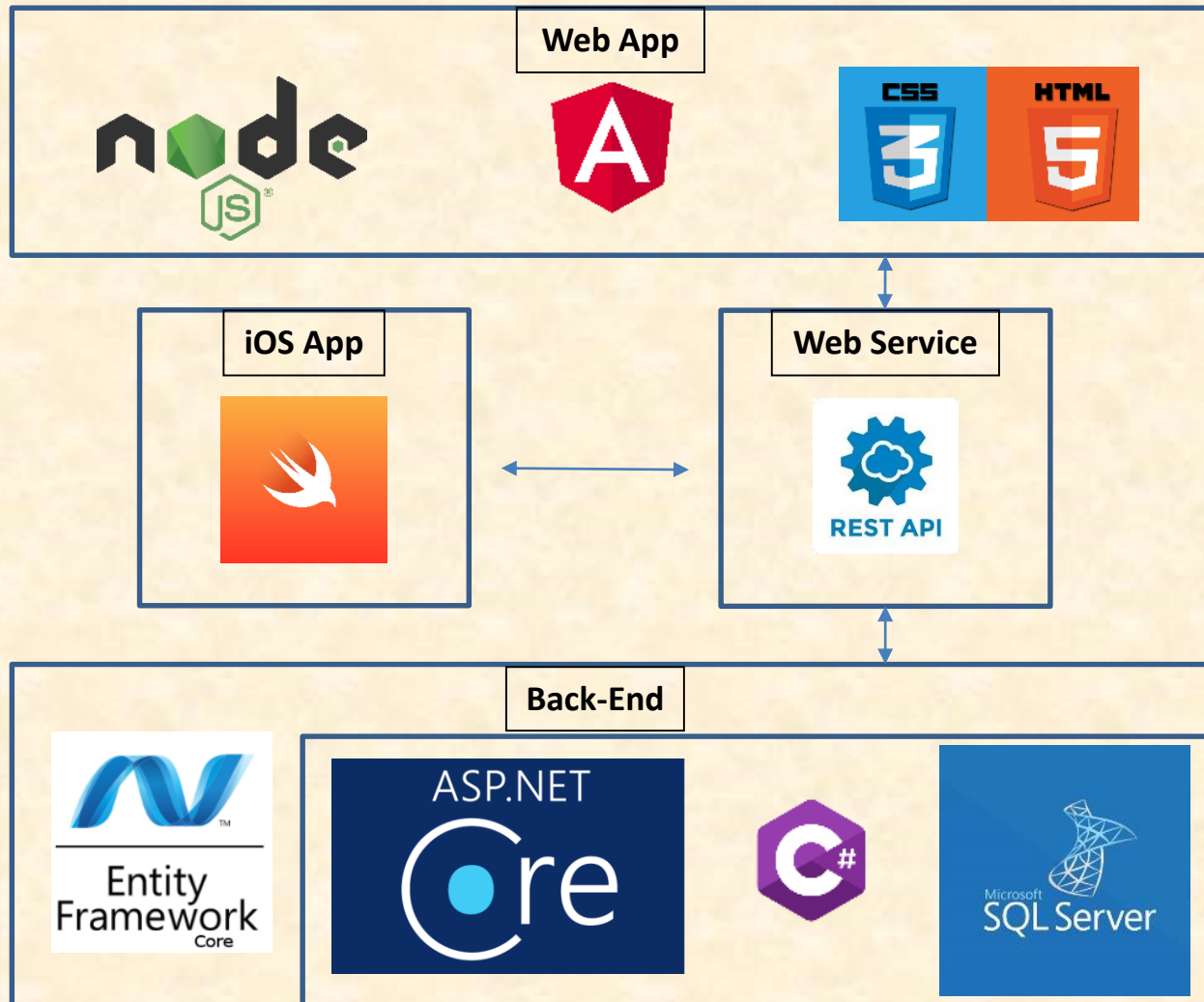
*From Students...
...to Professionals*

Department of Computer Science and Engineering
Michigan State University
Spring 2019

Project Overview

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

System Architecture



Schedule Page

The screenshot displays the 'Learning Scheduling System' interface. On the left is a dark blue navigation sidebar with the 'UNITED' logo and menu items: HOME, CALENDAR, EXCEPTIONS, SCHEDULE, COURSE CATALOG, and INSTRUCTORS. The main content area has a dark blue header with the title 'Learning Scheduling System'. Below the header are several buttons: 'Calendar', 'Generate Schedule', and 'Add Class'. A search bar contains fields for 'Code', 'From mm/dd/yyyy', 'To mm/dd/yyyy', 'Location', 'Instructor', and 'Point'. The central feature is a table titled 'Schedule' with the following columns: Action, Course Code, Course Title, Start Date, End Date, Start Time, Room, Location, Point, and Instructor. The table lists eight courses with their respective details and action icons (edit, delete, refresh).

Action	Course Code	Course Title	Start Date	End Date	Start Time	Room	Location	Point	Instructor
	IRVR	Thermography Infrared recurrent	1/10/19	7/20/19	03:00:00	211	RFD	DEN	Meriwether, Anson
	57DOOR	B757 Main Entry Door (MED) Rig	1/10/19	9/10/19	03:00:00	A001	HNL	SFO	Dale, Brnaba
	GMMV	GEN MX Manual - Vendor	1/14/19	9/12/19	04:00:00	A001	SYD	DEN	Meriwether, Anson
	67SA3	B767 Systems Avionics (2 Week)	1/16/19	9/22/19	02:00:00	1	LHR	SFO	Shiel, Augy
	A320FTS	A319/A320 Fuel System Troubleshooting	1/16/19	7/12/19	04:00:00	211	EZE	SFO	Mcclung, Griff
	A320SA2	A319/A320 Systems Avionics (2 Week)	1/16/19	6/17/19	04:00:00	2	HKG	OPC	Marchbanks, Emmerich
	37SA3	B737 Next Generation Systems (2 Week)	1/18/19	5/23/19	02:00:00	1041-B	SFO	SFO	Shiel, Augy
	ULT1	Ultrasonic Theory and Procedures	1/19/19	6/18/19	03:00:00	A001	LHR	SFO	Shiel, Augy

Exceptions Page

UNITED Learning Scheduling System

HOME
CALENDAR
EXCEPTIONS
SCHEDULE
COURSE CATALOG
INSTRUCTORS

Code From mm/dd/yyyy To mm/dd/yyyy Instructor Point Status [Add Exception](#)

Action	Supervisor	Instructor	Exception	Start Date	End Date	Comment
Approved	Spoard, Alexandros	Devereaux, Augy	VAC: Vacation	2/14/19	12/21/19	test3
Denied	Garvey, Freedman	Robinson, Spense	IN: Instructing Course	2/14/19	7/23/19	
Approved	Garvey, Freedman	Mcclung, Griff	VAC: Vacation	2/15/19	2/22/19	test2
Denied	Spoard, Alexandros	Devereaux, Augy	BH: Birthday Holiday	2/15/19	2/22/19	test adding exception
	Spoard, Alexandros	Butterey, Julie	ANP: Authorized No Pay	2/16/19	2/22/19	
	Carley, Gan	Atchison, Skye	ANP4: Authorized 1/2 Day No Pay	2/16/19	2/22/19	TESTING123
	Dela, Gaspar	Mcauslan, Kile	ANP4: Authorized 1/2 Day No Pay	2/16/19	2/23/19	testing adding exception
	Robinson, Brody	Dale, Brnaba	ANP: Authorized No Pay	2/16/19	2/22/19	PLEASE

Calendar Page

UNITED Learning Scheduling System

HOME
 CALENDAR
 EXCEPTIONS
 SCHEDULE
 COURSE CATALOG
 INSTRUCTORS

DEMO	February 2019											March 2019		
	17	18	19	20	21	22	23	24	25	26	27	28	1	2
<input checked="" type="checkbox"/> SFO														
<input checked="" type="checkbox"/> OPC														
<input checked="" type="checkbox"/> NHC														
<input checked="" type="checkbox"/> DEN														
<input checked="" type="checkbox"/> EWR														
<input type="checkbox"/> Mcburney, Muffin	B767 Reliability Training													
	Aircraft Weigh Tra													
<input type="checkbox"/> Atchison, Skye	Sheetmetal Skills Tech Indoc													
	Magnetic Particle Theory and Procedures													
	ETOPS Initial Training													
	737MAX Systems / Avionics Differences													
	737MAX Systems / Avionics Differences													
<input checked="" type="checkbox"/> CLE														

Instructors Page

UNITED Learning Scheduling System

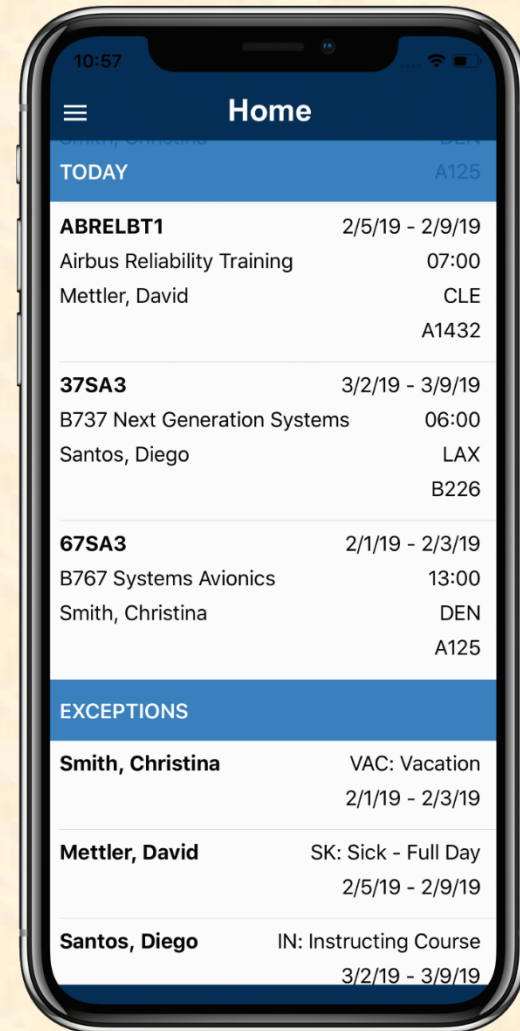
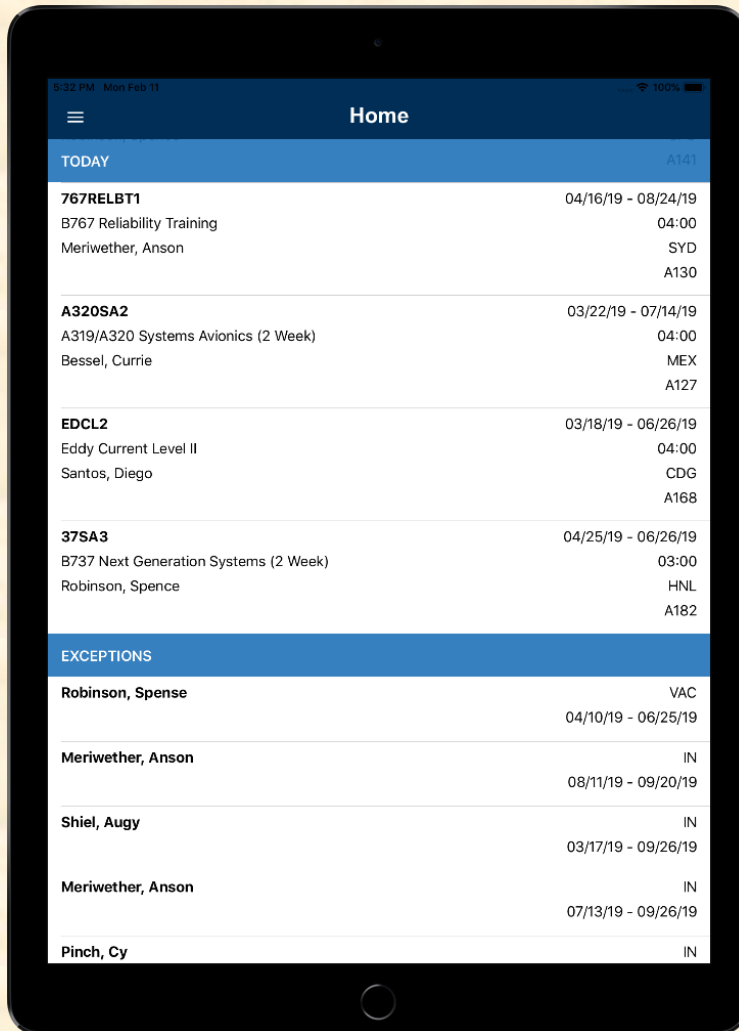
HOME
CALENDAR
EXCEPTIONS
SCHEDULE
COURSE CATALOG
INSTRUCTORS

Add Course to Instructor

Instructor Course Status

Instructor	Course Title	Status	Comment
Butterey, Julie	37MD	Teach All	
	A320TS	Upgrade - Teach None	
	LTT1C	Upgrade - Teach None	
	SRMBCOMP	Teach All	
	TS57	Upgrade - Teach None	
Marchbanks, Emmerich	A319ENH	Upgrade - Teach None	
	57PNEU	Teach All with Conditions	
	787SA2	Upgrade - Teach None	
	SCEPLOG	Teach All	
	787RELB1	Teach All	
	IRVR	Upgrade - Teach None	
	Optima2	Teach All	
767RELB1	Teach All		
Bessel, Currie	TS77	Teach All	
	SHTMTLAD	Teach All	
	TS379	Upgrade - Teach None	
	TEP20	Teach All	
	787UCS	Upgrade - Teach None	
	AHMAB	Upgrade - Teach None	
	GMMV	Teach All	
	MBR55	Teach All	

iOS Application



What's left to do?

- Complete and integrate Optimizer
- Implement roles / access levels
- Implement requesting a course
- Finish development of calendars
- Add attendance tracking and roster completion functionality



Questions?

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