

MICHIGAN STATE
U N I V E R S I T Y

10/06:

Design Day Booklet Production Process

The Capstone Experience

Dr. Wayne Dyksen
James Mariani
Luke Sperling

Department of Computer Science and Engineering
Michigan State University

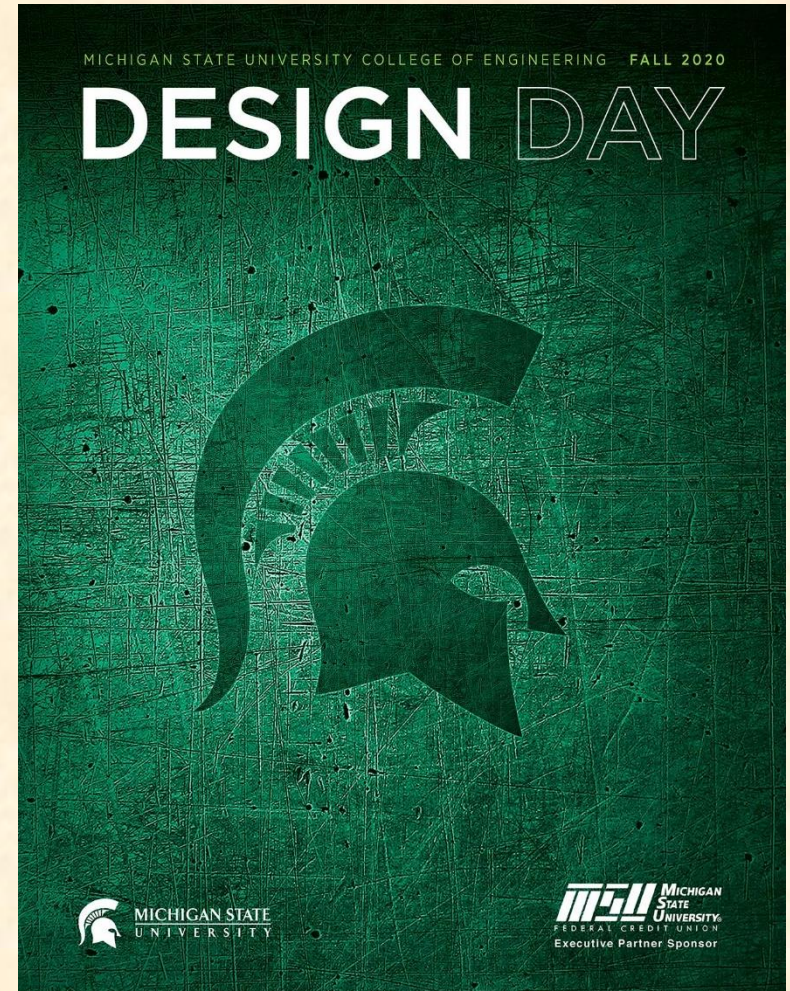
Fall 2021



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

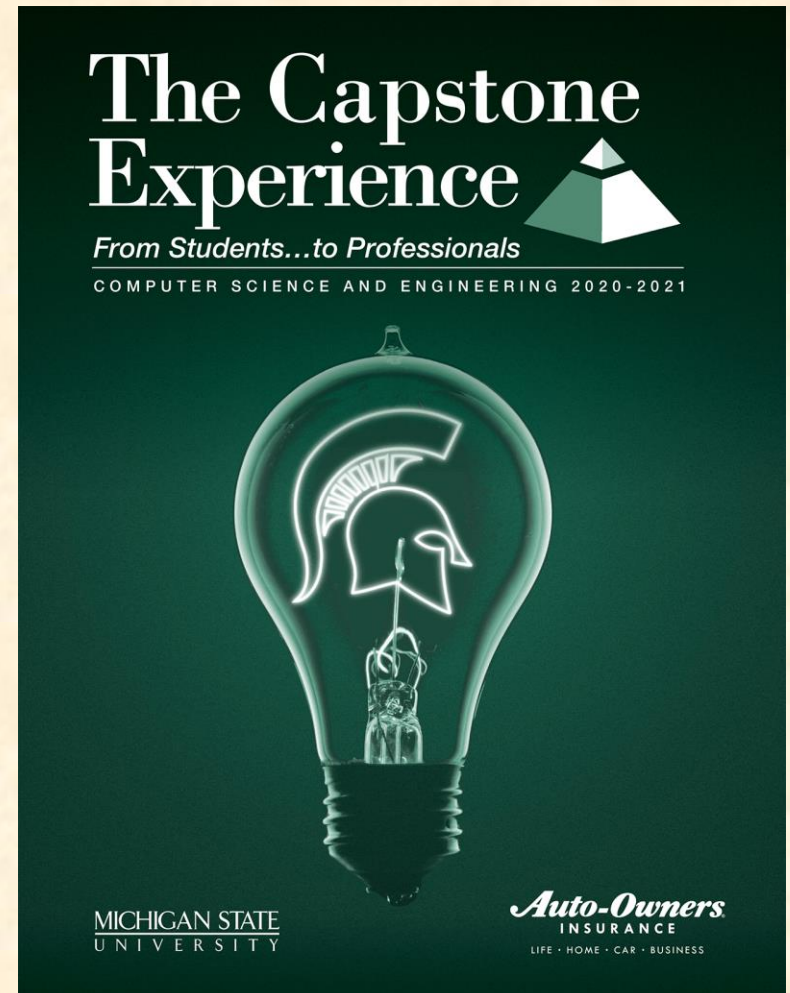
Design Day Booklet

- Professional Publication
 - Corporate Relations
 - Alumni Relations
 - Recruiting
 - Keepsake for You
- Contents
 - Schedule of Events
 - Project Descriptions



The Capstone Experience

- Professional Publication
 - Corporate Relations
 - Alumni Relations
 - Recruiting
- Contents
 - Capstone Projects
 - Academic Year



Team Project Page

- Template Distributed by Dr. D.
 - Sponsor's "Official" Name
 - Sponsor Logo
 - Project Title
 - MSU Team Photo
 - MSU Team Members' Names
 - Corporate Sponsors' Names
 - Headers and Footers
 - Posted On [Downloads](#) Page
- Template Completed by Team
 - Project Description
 - Artwork
 - Use Microsoft Windows Office 365 Version of Word.



Team's Job

- Read instructions carefully.
- Check everything.
- Use Microsoft Windows Office 365 version of Word.
- Read the instructions carefully.
- Write the project description.
- Read the instructions carefully.
- Provide the artwork.
- Read the instructions carefully.
- Update the project description and artwork.
- Read the instructions carefully.
- Check everything 100 times.
- Read the instructions carefully.



Project Description

[1 of 3]

- Read the instructions carefully. ← Have I mentioned this yet?
- Newspaper / Magazine Style
- Target Audience == General Public
- Do NOT Start...
 - “Our project is...”
 - “Our sponsor asked us to...”
 - “Our project aims to...”
- Use present tense throughout.
- Write as though your project is complete.
 - It works.
 - Your sponsor is using it.
- Fill the entire textbox, no less, no more.
- Read Past Examples
 - [The Capstone Experience](#) Booklet
 - Previous Design Day Booklets ([Design Day > Booklet](#))
 - [MSU Men’s Basketball](#)
- Make a Check List



Project Description

[2 of 3]

- Beginning
 - Sponsor Overview
 - 2 to 3 Lines
- Middle
 - The Problem & Your Solution
 - Magazine Style
 - Understandable by Non-Technical Person
- End
 - Technical Jargon
 - 2 to 3 Lines

Project Description

[3 of 3]

Volkswagen Group of America is the North American operation headquarters and subsidiary of the Volkswagen Group, one of the world's leading automobile manufacturers. They are comprised of 8,000 employees in the United States and sell their vehicles through a 1,000-strong dealer network.

Electric vehicles are one of the latest innovations in the automobile industry. Volkswagen, who just released their first electric vehicle, the ID.4, want a way to show potential customers the benefits of electric vehicles compared to gas powered vehicles as well as address and correct some of the common misconceptions many people have about electric vehicles.

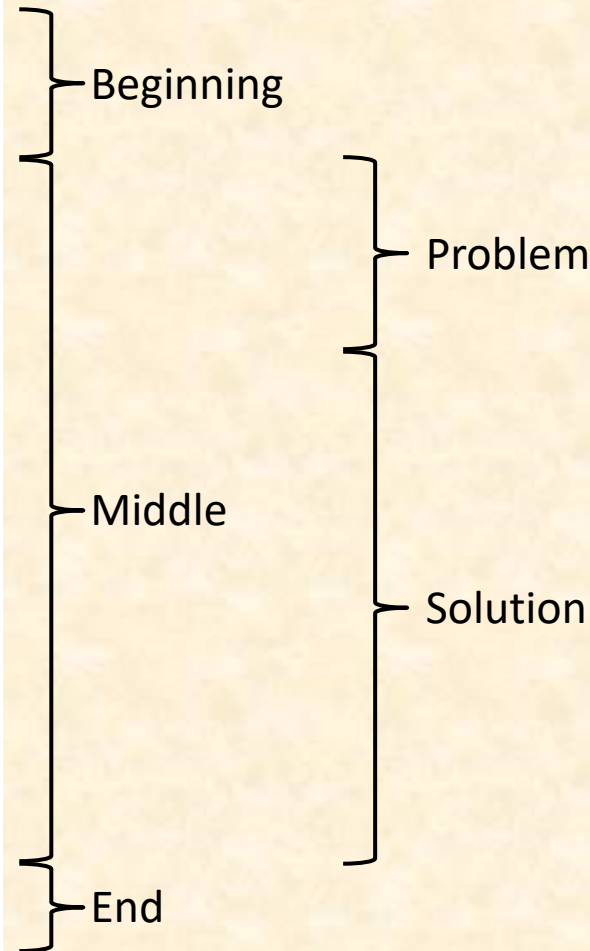
Our VW Car-Net Electric Vehicle Route Planner application is displayed in Volkswagen dealerships and educates potential car buyers about the benefits of buying an electric vehicle.

A major concern many buyers have about electric vehicles is the car's range and charging options available on the road. Our application generates driving routes for gas vehicles and electric vehicles that stop at charging stations. Buyers can compare these various routes with respect to route length, route path, fuel costs and carbon emissions.

Our application also allows for extensive customizability including sliders to adjust starting battery charge, climate control, temperature and weather conditions to account for the effects these factors have on battery consumption.

Our Electric Vehicle Route Planner helps assuage the fears of potential electric vehicle buyers by showing them that their daily routine will have minimal disruptions, and significant benefits if they switch to an electric vehicle.

Our Electric Vehicle Route Planner is developed as an Android application that utilizes API calls to handle route altering attributes and route generation. Our application is written in Kotlin.



Example Project Description: Spartan Basketball Player Timer

Michigan State University's Men's Basketball is elite, one of the top programs in the NCAA.

NCAA Division I basketball is very competitive. Although it may not be apparent to the casual observer, every detail of each game is carefully planned and scripted.

One aspect of a game plan is that of playing times. For each player, the coaches determine target times for how long he can play at a stretch, how long he needs to rest before playing again, and the total amount of time he should play in a game.

Developed with Coach Tom Izzo, our Spartan Basketball Player Timer is used by the basketball staff on the bench during the game.

When a player enters the game, his playing time is displayed with a solid green background. When his target playing time goes under two minutes, it is displayed in yellow. When the time goes below zero, it is displayed in red.

The color coding of times provides visual cues that can be seen by the coaches at a distance. If there are many yellow or red boxes, the coaches begin to plan substitutions.

A game summary for all the players can be displayed at any time whether the game clock is running or stopped.

Our software runs on a Microsoft Windows Tablet PC about the size of a traditional clipboard only slightly thicker. With no mouse or keyboard, all input is done with a pen.

Spartan Basketball Player Time is written in Visual Basic. The underlying database is Microsoft Access.



Artwork

[1 of 6]

- Read the instructions carefully.
- Take 2 to 3 screenshot(s) of working software.
 - Use eye-catching examples.
 - Avoid boring or trivial things.
 - Splash Screens
 - Login Screens
- Fill up the entire artwork space. Whitespace is bad!
- Overlap artwork if necessary.
- Include “framing” for web and mobile apps.
 - Browser
 - iPhone, iPad
 - Android Phone or Tablet
 - NOT Laptop or Desktop
 - See <https://mockuphone.com>.



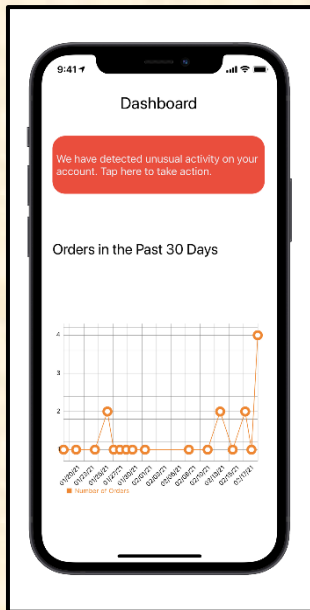
Artwork

[2 of 6]

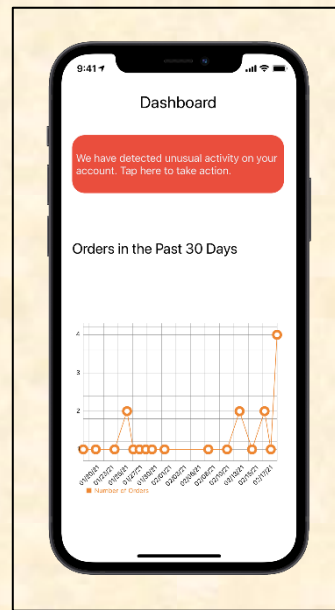
- Read the instructions carefully. ← Have I mentioned this yet?
- Add borders if necessary.
 - If Blends Into White Background
 - Create a single PNG for each piece of artwork using PowerPoint.
 - Read Instructions
- Capture and provide very high-resolution images.
- Preserve aspect ratios.
- Crop to eliminate transparent “borders.”
- Eliminate all surrounding “whitespace.”
- Use paint.net.
- See examples.
 - The Capstone Experience Booklets
 - Design Day Artwork Feedback, Spring 2021
 - Previous Design Day Booklets (Design Day > Booklet)
 - MSU Men’s Basketball
- Make a Check List

Artwork

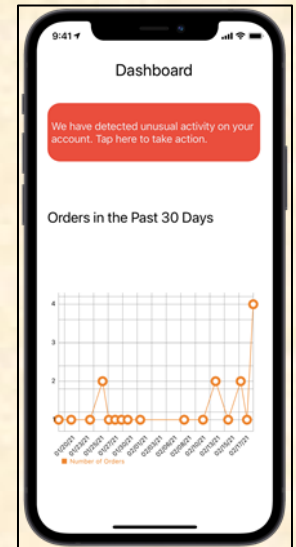
[3 of 6]



White
Whitespace



Too Much
Transparent
Whitespace

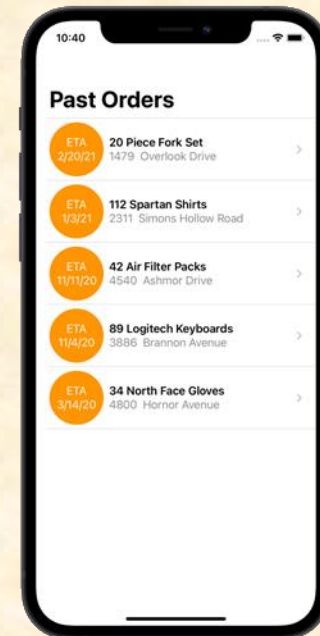
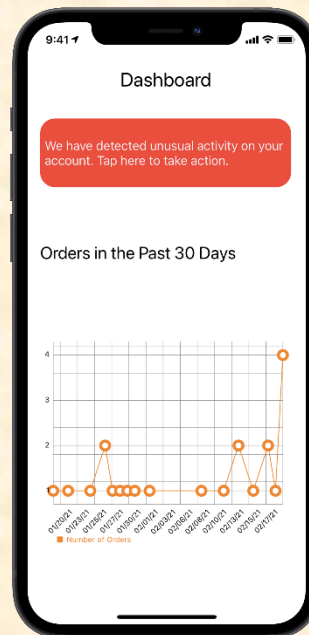
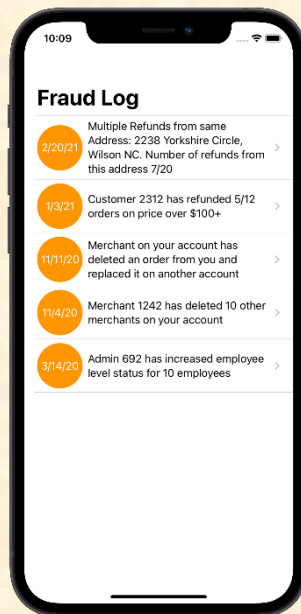


Nicely
Cropped
Transparent
Whitespace



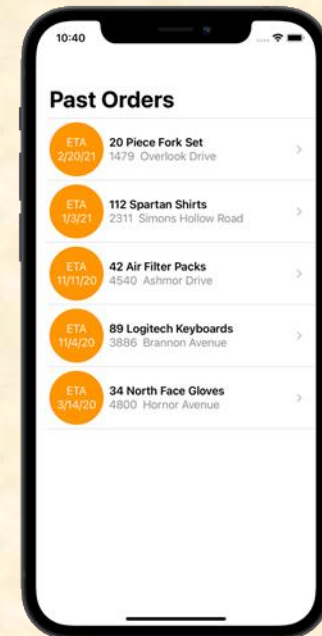
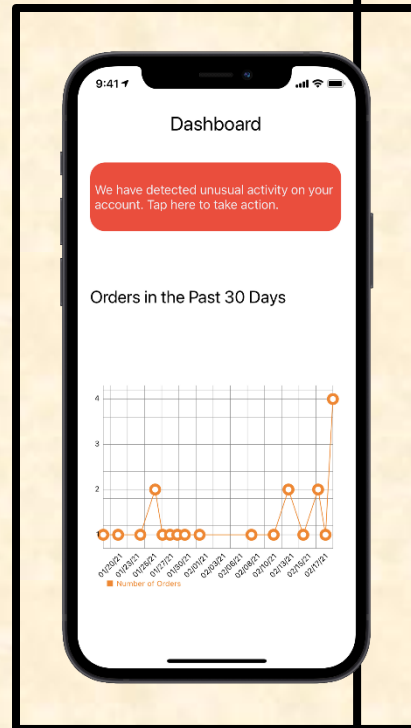
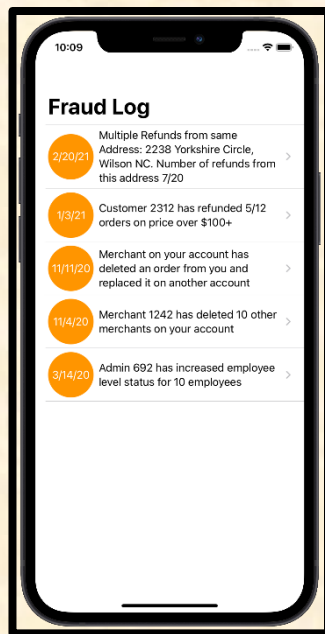
Artwork

[4 of 6]



Artwork

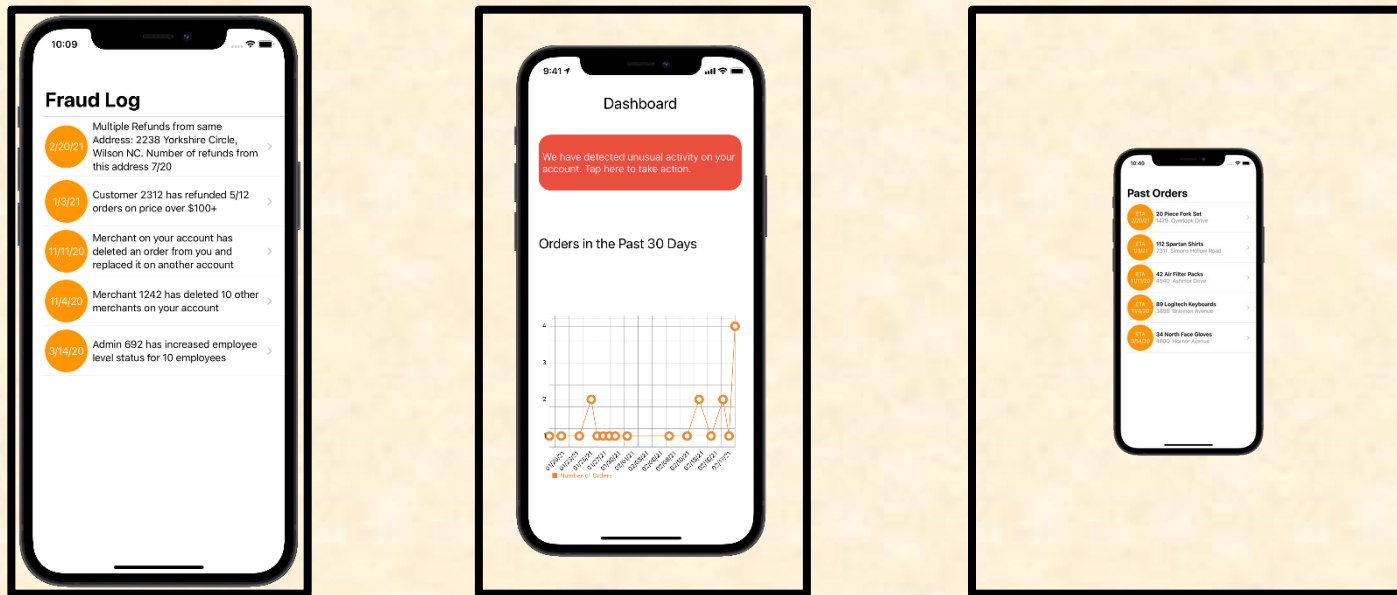
[5 of 6]



Border Shows Transparent Whitespace

Artwork

[6 of 6]



Select All. Rescale to 3" Height.



Artwork Example

[1 of 5]

CSE 498 / 7:30 a.m. Engineering Building, Room 3405 | Third Floor

Amazon AVAST: Amazon Video And Shopping Technology

Founded in 1994 as an online bookstore, Amazon is the largest online retailer in the world. In addition to retail, Amazon offers services in cloud infrastructure through Amazon Web Services, and audio and video streaming through Amazon Music and Prime Video.

According to a recent study, 80% of internet usage will be people watching online videos by the year 2020. This presents a significant opportunity for all online retailers.

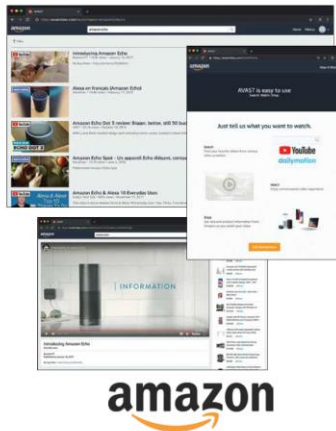
Our AVAST (Amazon Video And Shopping Technology) platform leverages the growth in online video streaming by providing users with an easy way to purchase products of interest that they see in the videos they are watching.

Using AVAST, an Amazon customer can stream videos from content providers such as YouTube and their favorite TV networks.

While a user is watching a video, AVAST analyzes it to find items of potential interest to the viewer. As the video plays, related Amazon products are displayed alongside the video as illustrated in the examples at the right.

For each item, AVAST displays a product description, pictures and ratings. A viewer can easily purchase any product simply by clicking on the conveniently provided link to Amazon.

The frontend of AVAST (Amazon Video And Shopping Technology) is built using Angular 6, while the backend is implemented using PHP Laravel. In addition, several Amazon Web Services are used including Rekognition to analyze videos, and EC2 to host the AVAST website.



Michigan State University Team Members (left to right)

Linshawn Fang
Wenzhou, Zhejiang, China

Ben Nwachukwu
Oak Park, Michigan

Patrick McCormick
Northville, Michigan

Ian McGregor
Clarkston, Michigan

Han Wang
Novi, Michigan

Amazon Project Sponsors

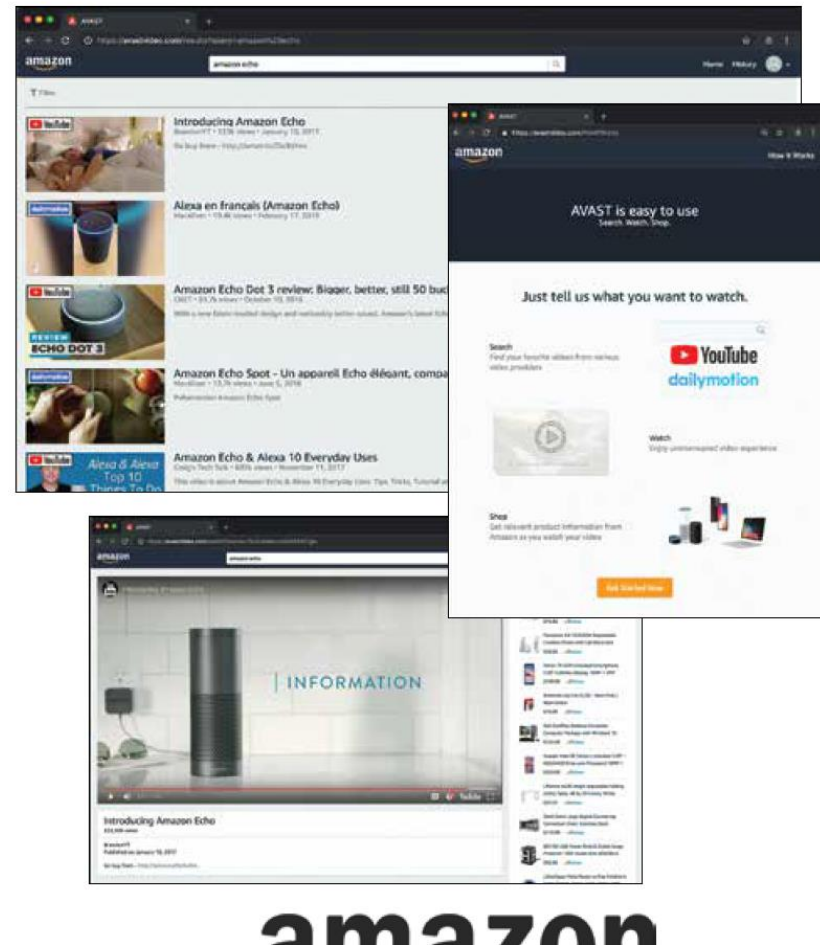
Garret Gaw
Detroit, Michigan

Derek Gebhard
Detroit, Michigan

Kyle Koss
Detroit, Michigan

Pete Pfeiffer
Detroit, Michigan

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amazon



Artwork Example

[2 of 5]

Engineering Building, Room 3405 | Third Floor 7:43 a.m. / CSE 498

Aptiv Autonomous Vehicle Fleet Connectivity App

Aptiv is a global technology company that is transforming mobility with its portfolio of safe, green, and connected solutions for its customers.

As a leader in autonomous vehicle development, Aptiv maintains an extensive test fleet of autonomous vehicles, which must be managed and monitored.

Our Autonomous Vehicle Fleet Connectivity App provides connectivity to Aptiv's autonomous test fleet, which operates across the US, Europe and Asia, and includes various vehicles with software for every level of autonomy.

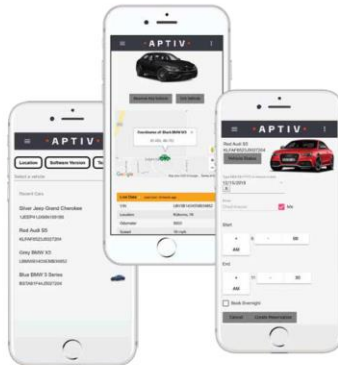
Among other features, our system provides scheduling of test vehicles. After logging in, Aptiv engineers see a calendar view of the entire fleet from which they can select a particular day to obtain a list of available vehicles.

Once a vehicle is selected, our app displays a complete set of information about it including its past usage, reservations and diagnostic information.

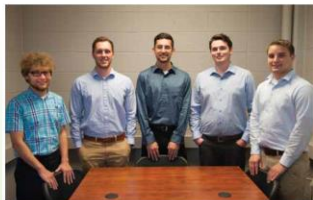
In addition to checking availability of vehicles based on dates, our app provides for advanced search to narrow the scope based on things like type of vehicle, location of vehicle and level of autonomy.

The "My Reservations" tab shows a user's upcoming vehicle reservations as well as enabling them to make and cancel reservations.

Our Autonomous Vehicle Fleet Connectivity App is written using the Angular web framework, obtaining information from Aptiv's native servers. Communications are implemented using Microsoft Azure Services.



• APTIV •



Michigan State University Team Members (left to right)

Alex Patton
Howell, Michigan

Drew Glapa
Dexter, Michigan

Emilio Castillo
Lansing, Michigan

Klint Kaercher
Lansing, Michigan

Chad Krause
Novi, Michigan

Aptiv Project Sponsors

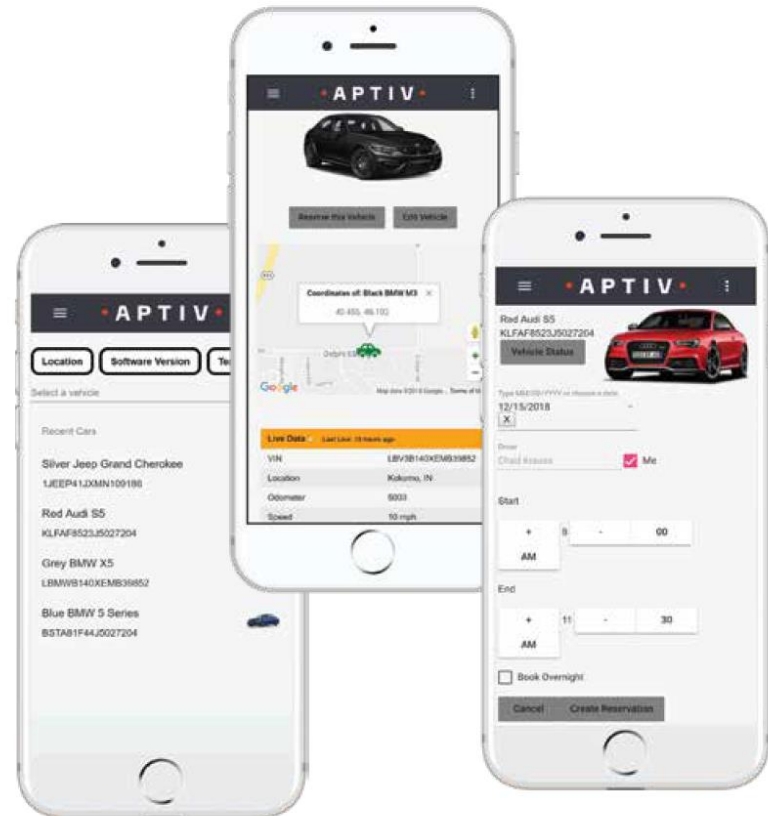
Chris Lussenhop
Troy, Michigan

Joe Lyon
Troy, Michigan

Ross Maguire
Troy, Michigan

Jim Quisenberry
Troy, Michigan

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• APTIV •



Artwork Example

[3 of 5]

CSE 498 / 7:56 a.m. Engineering Building, Room 3405 | Third Floor

Auto-Owners Insurance Jeffrey: Virtual Insurance Claim Advisor

Auto-Owners Insurance is a Fortune 500 company that provides automotive, home, life and commercial insurance. Headquartered in Lansing, Michigan, Auto-Owners is represented by over 44,000 licensed insurance agents across 26 states, and provides insurance to nearly 3 million policyholders.

Every day, hundreds of insurance claims are filed with Auto-Owners through its independent agents. This process can be tedious for both policyholders and agents.

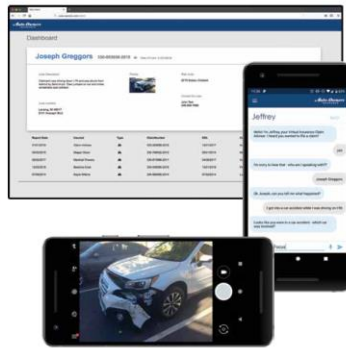
Our Jeffrey Virtual Insurance Claim Advisor system is a virtual claim assistant that automates the entire claim reporting process. Our mobile app, shown at the right, enables both agents and policyholders to file a claim easily and efficiently.

Jeffrey engages in a dialogue with policyholders and agents to gather information required to file their claim through natural conversation. If necessary, Jeffrey prompts users to take photos, record videos or attach documents relevant to a claim.

After completing a dialogue with a user, Jeffrey automatically gathers the appropriate claim information and submits it to Auto-Owners.

Our companion web app enables agents and Auto-Owners associates to find and review claim information that is submitted through the mobile application.

Our Jeffrey Virtual Insurance Claim Advisor system features natural language processing, which is implemented using Google's Dialogflow. A custom REST API, written in Kotlin, handles interactions between the applications and our MySQL database. Our web application is built using the React JavaScript framework.



Auto-Owners
INSURANCE
LIFE • HOME • CAR • BUSINESS



Michigan State University Team Members (left to right)

Alex Klingel
Marshall, Michigan

Connor Stabnick
Rochester, Michigan

Nabiha Biviji
Novi, Michigan

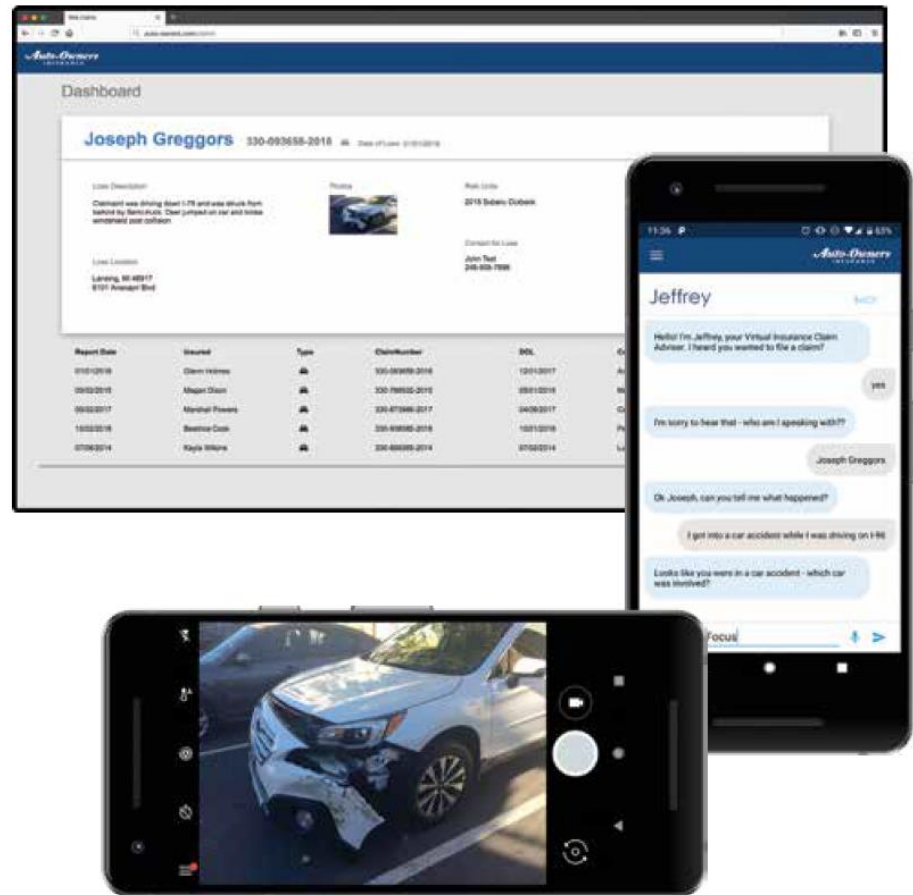
Michael Dickmann
Novi, Michigan

Auto-Owners Project Sponsors

Ross Hacker
Lansing, Michigan

Scott Lake
Lansing, Michigan

Jim Schumacher
Lansing, Michigan



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Artwork Example

[4 of 5]

Engineering Building, Room 3405 | Third Floor 9:53 a.m. / CSE 498

Proofpoint Improved Detonation of Evasive Malware

Headquartered in Sunnyvale, California, Proofpoint provides cybersecurity to many organizations, including Fortune 100 companies and educational institutions such as Michigan State University.

Analyzing malware is challenging. Viruses, spyware, ransomware and other malicious programs come in many complex forms. To protect its customers, Proofpoint uses tools called sandboxes, which are restricted computing environments where potentially harmful malware can be tested and analyzed safely.

Unfortunately, a new class of malware called "evasive malware" is rapidly emerging, thereby presenting a new, more dangerous class of cybersecurity threats.

Evasive malware has the ability to detect the presence of the sandbox environment. After doing so, it changes what it does, thereby evading analysis.

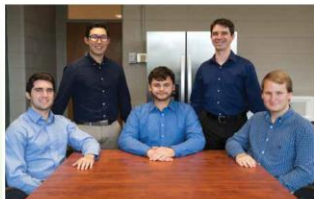
Our Improved Detonation of Evasive Malware system modifies evasive malware to block its ability to detect the sandbox environment, which causes it to execute. When the evasive malware does execute, its behavior is analyzed to determine precisely what it does so that Proofpoint can design countermeasures to protect against it.

Our web app, shown at the right, displays the results of processed malware. Users can check the status of the malware samples being tested as well as see the top evasive techniques being used. Both harmless and harmful evasive results are presented.

Our Improved Detonation of Evasive Malware system is implemented in Python, using the Cuckoo sandboxing framework and Suricata network monitor. Our web app is implemented using Python and Flask with the interface framed in Bootstrap and jQuery.

The screenshot shows the Proofpoint web application interface. It includes sections for System State, Top Signatures, Recently Submitted, and Sample Pipeline. The interface is clean and modern, with a dark theme and clear typography.

proofpoint™



**Michigan State University
Team Members** (left to right)

Jack Mansueti
Beverly Hills, Michigan

Tae Park
Canton, Michigan

Sean Joseph
Grand Ledge, Michigan

Ryan Gallant
Midland, Michigan

Ian Murray
Midland, Michigan

**Proofpoint
Project Sponsors**

Leliani Alejo
Sunnyvale, California

Kristi Gee
Sunnyvale, California

Brad Woodberg
Troy, Michigan

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The screenshot shows the Proofpoint web application interface. It includes sections for System State, Top Signatures, Recently Submitted, and Sample Pipeline. The interface is clean and modern, with a dark theme and clear typography.

The screenshot shows the Proofpoint web application interface. It includes sections for Malware Sample Results and Sample Resubmissions. The interface is clean and modern, with a dark theme and clear typography.

proofpoint™



Artwork Example

[5 of 5]

The Capstone Experience

MSU Federal Credit Union Banking with Amazon's Alexa and Apple's Siri

Founded in 1937, Michigan State University Federal Credit Union offers financial services to Michigan State University and Oakland University faculty, staff, students, alumni association members and their families. With 230,000 members and over \$3.3 billion in assets, MSUFCU is the largest university-based credit union in the world.

MSUFCU currently offers mobile banking apps on both Apple (iOS) and Google Android devices for members to access their funds and perform banking transactions at any time.

Our Banking with Amazon's Alexa and Apple's Siri systems maintain MSUFCU's technological edge by expanding their banking offerings to voice-controlled smart devices such as Amazon Alexa-enabled devices, Apple Watch and Android Wear.

Voice-controlled technologies give MSUFCU members new ways to interact with their accounts, including accessing their account balance, transferring money and obtaining information about recent transactions. Members can request other information about MSUFCU such as branch hours, current loan rates and the location of the nearest ATM or Branch.

Our companion administrative web portal enables MSUFCU staff to manage the available information and services offered by these voice technologies. Frequently asked questions can be added to the apps in minutes to improve the user experience.

The Alexa skill is written in Python, Apple Watch in Swift and Android Wear in Java. All three contact a MySQL database through JSON. The administrative web portal is written in PHP.



Michigan State University Team Members (left to right)

Steven Jorgensen
Saranac, Michigan

Kieran Hall
Traverse City, Michigan

Will Rudnick
Chicago, Illinois

Ethan Boyd
Saline, Michigan

Qiuning Ren
Beijing, China

MSUFCU Project Sponsors

Samantha Amburgey
East Lansing, Michigan

April Clobes
East Lansing, Michigan

Emily Fesler
East Lansing, Michigan

Collin Lochinski
East Lansing, Michigan

Judy Lynch
East Lansing, Michigan

Ben Maxim
East Lansing, Michigan

Andy Wardell
East Lansing, Michigan

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Example Spartan Basketball Player Timer

Michigan State University Men's Basketball

Spartan Basketball Player Timer

NCAA Division I basketball is very competitive. Although it may not be apparent to the casual observer, every detail of each game is carefully planned and scripted.

One aspect of a game plan is that of playing times. For each player, the coaches determine target times for how long he can play at a stretch, how long he needs to rest before playing again, and the total amount of time he should play in a game.

Developed with Coach Tom Izzo, our Spartan Basketball Player Timer is used by the basketball staff on the bench during the game.

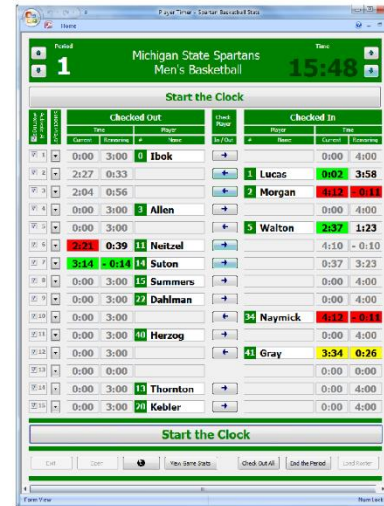
When a player enters the game, his playing time is displayed with a solid green background. When his target playing time goes under two minutes, it is displayed in yellow. When the time goes below zero, it is displayed in red.

The color coding provides visual cues that can be seen by coaches at a distance. If there are many yellow or red boxes, coaches begin to plan substitutions.

A game summary for all the players can be displayed at any time whether the game clock is running or stopped.

Our software runs on a Microsoft Windows Tablet PC about the size of a traditional clipboard only slightly thicker. With no mouse or keyboard, all input is done with a pen.

Spartan Basketball Player Timer is written in Visual Basic. The underlying database is Microsoft Access.



Michigan State University
Team Members

Wayne Dyksen
North Haledon, New Jersey

Wayne Dyksen
Grand Rapids, Michigan

Wayne Dyksen
West Lafayette, Indiana

Wayne Dyksen
East Lansing, Michigan

Team Michigan State University

Project Sponsors

Richard Bader
East Lansing, Michigan

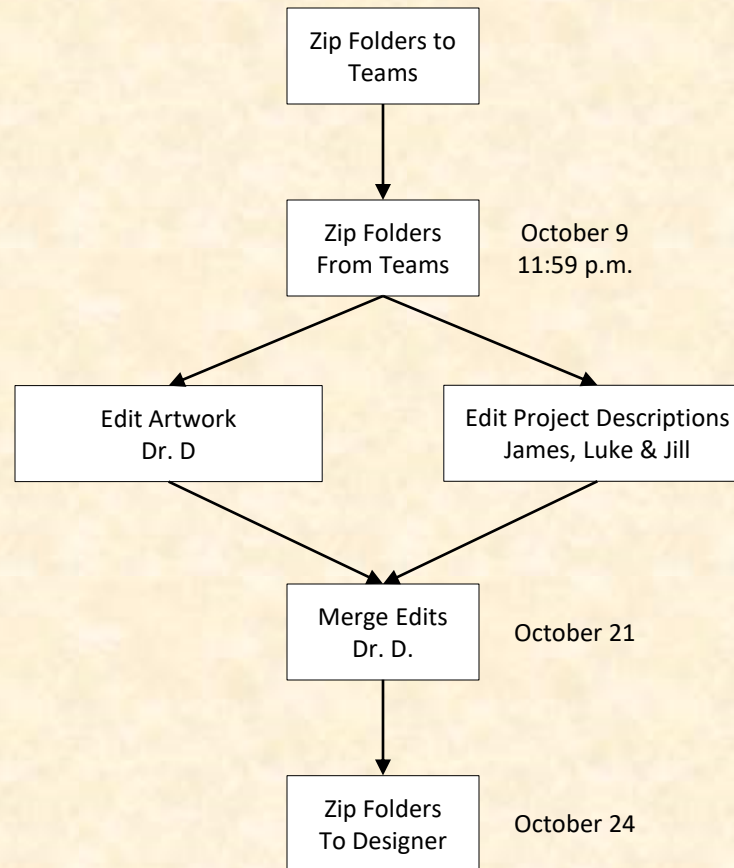
Jim Boylen
East Lansing, Michigan

Tom Izzo
East Lansing, Michigan
Mark Montgomery

Dwayne Stephens

East Lansing, Michigan

The DD Booklet Production Process



1 Template From Dr. D. To Team

All of the textboxes are
named for processing

Do NOT create your
own textboxes.

If necessary, start over
from the original
downloaded template.

Engineering Building, 1300 Hallway | First Floor

8:00 a.m. - Noon / Computer Science CSE498

United Airlines Training Scheduling and Optimization System II

Insert your project description here. Read the [Design Day Booklet Page Instructions](#) thoroughly, over and over and over and over and over.

For examples, see previous Design Day booklets, which you can find [here](#).

You must use the Microsoft Windows version of Word. Do NOT even think about using anything else.

The first two or three lines must be about your client. The following is an example.

Auto-Owners Insurance is a Fortune 500 company that provides automotive, home, life and commercial insurance to nearly 3 million policyholders in 26 states.

Do NOT use phrases like "Our clients asked us to..." or "Our project is..."

Do NOT use phrases like "Our software aims to..." or "Our software is designed to..."

Write everything in the present tense.

Do NOT write anything negative about your client like "Our client's current software is horrible; ours is better."

Read the [Design Day Booklet Page Instructions](#) thoroughly, over and over and over and over and over.

It's okay for a paragraph to have only one sentence as long as the sentence is long enough to take up at least 15 lines.

The last few lines (and only the last few lines) must contain technical details about your project. The following is an example.

Read the [Design Day Booklet Page Instructions](#) thoroughly, over and over and over and over and over.

The frontend of AVAST (Amazon Video And Shopping Technology) is built using Angular 6, while the backend is implemented using PHP Laravel. In addition, several Amazon Web Services are used including Rekognition to analyze videos.

- To insert your artwork, right-click on this artwork (grey rectangle with text within the textbox) and select "Change Picture..."
- Put each piece of artwork in a **separate** artwork textbox.
- Do not change the textbox's red external borders. Use them as handles to move and resize the textbox. The red borders will be made invisible later.
- Delete the artwork textboxes that you do not need.
- If you need more textboxes, you **must** copy-and-paste one of these existing artwork textboxes. Right-click on the outside red external border, select copy, and then paste.
- To layer overlapping textboxes, right-click on a textbox red border, and select "Bring to Front" or "Send to Back."

existing artwork textboxes. Right-click on the outside red external border, select copy, and then paste.


- To layer overlapping textboxes, right-click on a textbox red border, and select "Bring to Front" or "Send to Back."


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- To layer overlapping textboxes, right-click on a textbox red border, and select "Bring to Front" or "Send to Back."





Michigan State University
Team Members (left to right)

Josh Pezeshki
Franklin, Michigan

Jack Soenke
Naperville, Illinois

Laura Danila
Livonia, Michigan

Andrew Ferguson
Livonia, Michigan

United Airlines Training
Project Sponsors

Amadou Anne
Chicago, Illinois

Craig Bennett
Chicago, Illinois

Rick Brown
Chicago, Illinois

Lynda McDaniel
Houston, Texas

Tom Wilson
Chicago, Illinois

There are four
placeholders for
artwork.

The text boxes have red
outlines for handles.

Each textbox includes
one embedded
placeholder artwork, a
grey png image.

Delete the placeholders
you don't need.

Do NOT create your
own textboxes for
artwork.



2 Project Description Draft From Team To Dr. D.

Computer Science CSE498 / 8:00 a.m. - Noon Engineering Building, 1300 Hallway | First Floor

United Airlines Training Scheduling and Optimization System II

United Airlines is the world's second largest airline company, operating 4,600 flights a day to 357 destinations. To maintain its fleet of 1,300 aircraft and ensure successful flights, it is crucial to have properly trained personnel. United's Technical Operations division has 60 instructors, who teach around 700 classes yearly to over 7,000 employees.

Our Training Scheduling and Optimization System II provides a web app to facilitate United's maintenance training schedulers to schedule instructors and students for courses across the country.

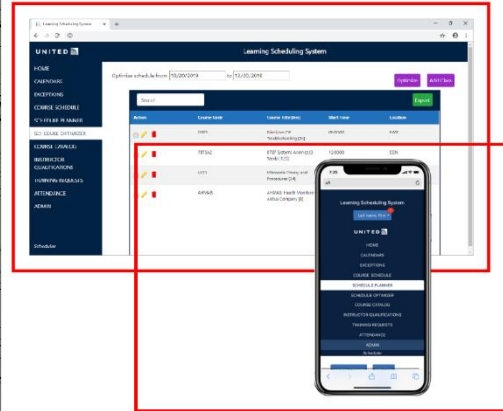
When the scheduler goes to schedule a course, the system displays available locations and instructors. The scheduler can also schedule a course from a training request inputted by instructors or supervisors.

Our system contains a schedule optimization system. Within a given time frame, a scheduler inputs a set of classes and locations. The optimizer recommends an optimal schedule, including instructor and classroom. This reduces the amount of time the scheduler needs to plan courses.

The scheduler will be able to view calendars with published, planned, and optimized courses. They can edit classes from this view. The calendars can be sorted by instructor, location, and class. If a conflict is attempted to be scheduled, a notification will alert the scheduler.

The web app is fully functional using both web browsers and mobile browsers.

Our Training Scheduling and Optimization System II web app is built with ASP.NET Core, Angular 8, Node.js, an Entity Framework, and an Azure SQL database. The web app is hosted as an app service on Azure Cloud Platform.



Michigan State University Team Members (left to right)

Josh Pezeshki
Franklin, Michigan

Jack Soenke
Naperville, Illinois

Laura Danila
Livonia, Michigan

Andrew Ferguson
Livonia, Michigan

United Airlines Project Sponsors

Amadou Anne
Chicago, Illinois

Craig Bennett
Chicago, Illinois

Rick Brown
Chicago, Illinois

Lynda McDaniel
Houston, Texas

Tom Wilson
Chicago, Illinois



2 Project Description Draft From Team To Dr. D.

Search your project
description for the
word “will.”

Computer Science CSE498 / 8:00 a.m. - Noon Engineering Building, 1300 Hallway | First Floor

United Airlines Training Scheduling and Optimization System II

United Airlines is the world's second largest airline company, operating 4,600 flights a day to 357 destinations. To maintain its fleet of 1,300 aircraft and ensure successful flights, it is crucial to have properly trained personnel. United's Technical Operations division has 60 instructors, who teach around 700 classes yearly to over 7,000 employees.

Our Training Scheduling and Optimization System II provides a web app to facilitate United's maintenance training schedulers to schedule instructors and students for courses across the country.

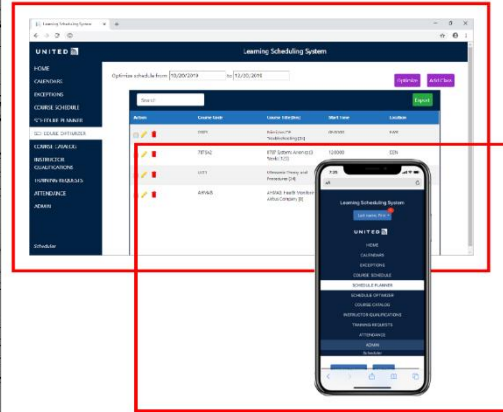
When the scheduler **goes to schedule a course**, the system displays available locations and instructors. The scheduler can also schedule a course from a training request inputted by instructors or supervisors.

Our system contains a schedule optimization system. Within a given time frame, a scheduler inputs a set of classes and locations. The optimizer recommends an optimal schedule, including instructor and classroom. This reduces the amount of time the scheduler needs to plan courses.

The scheduler **will be able to view** calendars with published, planned, and optimized courses. They can edit classes from this view. The calendars can be sorted by instructor, location, and class. If a conflict is attempted to be scheduled, a notification **will alert** the scheduler.

The web app is fully functional using both web browsers and mobile browsers.

Our Training Scheduling and Optimization System II web app is built with ASP.NET Core, Angular 8, Node.js, an Entity Framework, and an Azure SQL database. The web app is hosted as an app service on Azure Cloud Platform.



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3 Project Description Edits By TAs

Computer Science CSE498 / 8:00 a.m. - Noon Engineering Building, 1300 Hallway | First Floor

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Our schedule optimization feature allows a scheduler to input a given time frame, a set of classes, and a set of locations. The optimizer then recommends an optimal schedule, including instructor and classroom assignments.

The optimized schedule minimizes the distance traveled by instructors, and takes into account instructor preferences and room availabilities.

An optimized schedule saves United Airlines significant time, money, and resources.

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Round 1 edits by James and Ryan ...

- Our Training Scheduling and Optimization System II provides a web app to facilitate United's maintenance training schedulers to schedule instructors and students for courses across the country.
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3 Project Description Edits By Jill

Computer Science CSE498 / 8:00 a.m. - Noon Engineering Building, 1300 Hallway | First Floor

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Round 2 edits by Jill...

- instructors (remove coma)
- including (I would remove the colon)
- timeframe
- classes, (would remove the comma and insert "and")
- timeframe



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PAGE N + 24



Artwork Draft From Team To Dr. D.

Computer Science CSE498 / 8:00 a.m. - Noon Engineering Building, 1300 Hallway | First Floor

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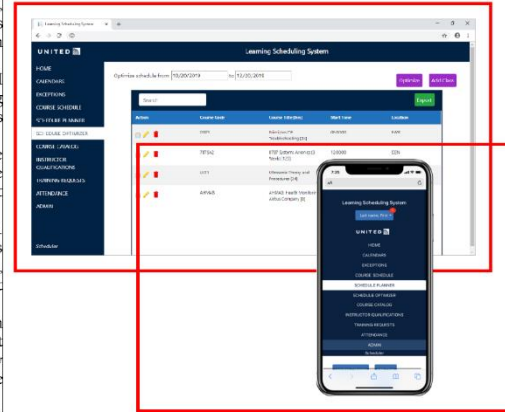
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3

Artwork Draft From Team To Dr. D.



What's wrong
with this artwork?



3

Artwork Draft Feedback by Dr. D.



Artwork Update From Team To Dr. D.

Computer Science CSE498 / 8:00 a.m. - Noon Engineering Building, 1300 Hallway | First Floor

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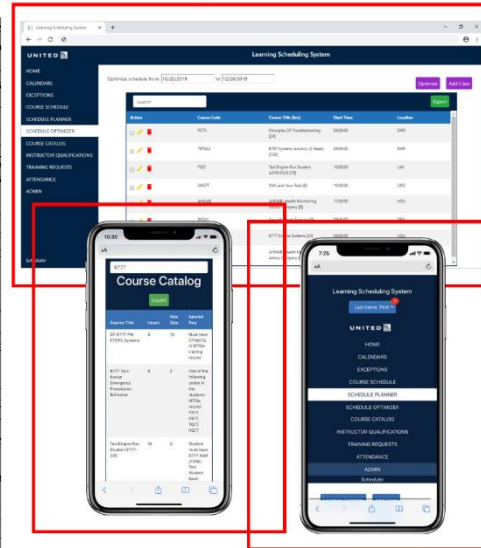
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Final Update From Team To Dr. D.

Computer Science CSE498 / 8:00 a.m. - Noon Engineering Building, 1300 Hallway | First Floor

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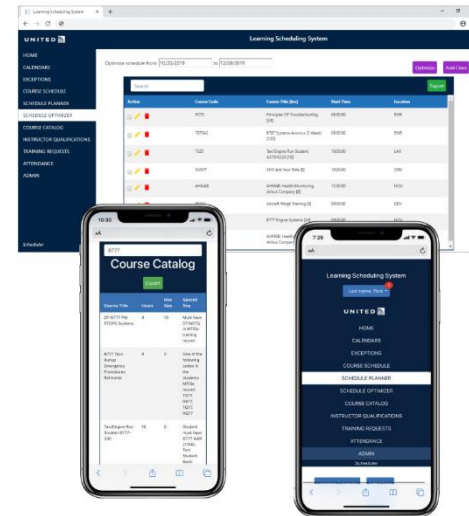
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Final Version From Dr. D. To Designer

Computer Science CSE498 / 8:00 a.m. - Noon Engineering Building, 1300 Hallway | First Floor

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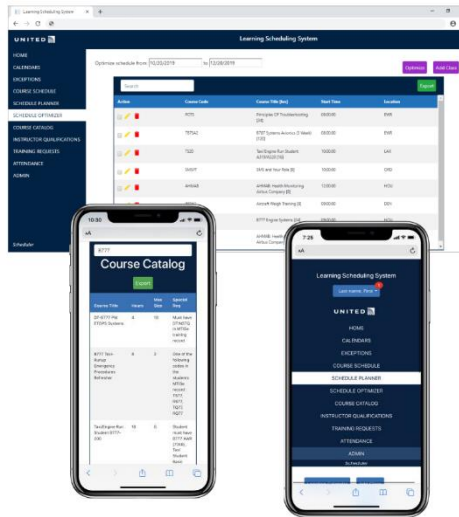
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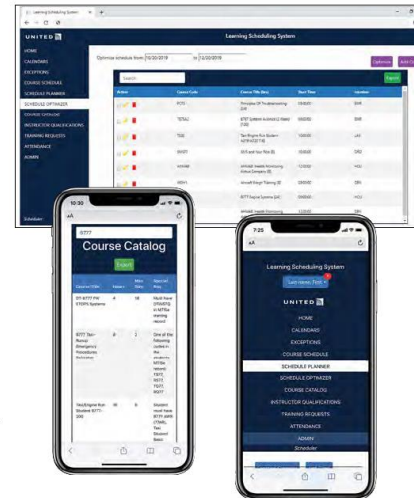
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Design Day Production Schedule

Weekday	Date	Task	Elapsed Days
Monday	October 4	Dr. D. posts zipped folders with templates for downloading.	0
Wednesday	October 6	Dr. D. discusses process at all-hands meeting.	2
Saturday	October 9	Teams submit zipped folders with first draft by 11:59 p.m.	5
Sunday	October 10	Dr. D. edits the artwork and creates artwork feedback.	6
Sunday	October 10	Dr. D. posts zipped folders with artwork feedback for downloading.	6
Sunday	October 10	TAs begin editing project descriptions.	6
Sunday	October 10	Teams begin updating artwork.	6
Monday	October 11	Dr. D. discusses artwork feedback at all-hands meeting.	7
Monday	October 11	TAs. discusses project descriptions at split-hands meeting.	7
Monday	October 11	Teams submit zipped folders with updated artwork by 11:59 p.m.	7
Tuesday	October 12	Dr. D. edits the artwork and creates artwork feedback.	8
Tuesday	October 12	Dr. D. posts zipped folders with artwork feedback for downloading.	8
Tuesday	October 12	TAs submit project description edits by 11:59 p.m.	8
Wednesday	October 13	Dr. D. discusses artwork feedback at all-hands meeting.	9
Wednesday	October 13	TAs. discusses project descriptions at split-hands meeting	9
Wednesday	October 13	TAs and Jill meet to discuss project descriptions.	9
Wednesday	October 13	Jill begins editing project descriptions.	9
Wednesday	October 13	Teams submit zipped folders with updated artwork by 11:59 p.m.	9
Friday	October 15	Jill submits project description edits by 8:00 a.m.	11
Friday	October 15	TAs and Jill meet to discuss project descriptions.	11
Friday	October 15	TAs begin final editing project descriptions.	11
Friday	October 15	TAs submit project description edits by 11:59 p.m.	11
Saturday	October 16	Dr. D. posts final version of project descriptions.	12
Monday	October 18	Dr. D. discusses project descriptions at all-hands meeting.	14
Tuesday	October 19	Teams submit final version of project description by 11:50 p.m.	15
Wednesday	October 20	Dr. D. discusses any remaining issues at all-hands meeting.	16
Thursday	October 21	Dr. D. merges final artwork with final project description.	17
Thursday	October 21	Dr. D. posts zipped folders with final version for downloading.	17
Friday	October 22	Teams submit zipped folders with final version by 11:59 p.m.	18
Saturday	October 23	Dr. D. submits zipped booklet assets to graphic designer.	19



October 2021

October 2021						
Su	Mo	Tu	We	Th	Fr	Sa
					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
31						

November 2021						
Su	Mo	Tu	We	Th	Fr	Sa
	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				

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Sep 26	27	28	29	30	Oct 1	2
3	4 1. Dr. Posts Zip Templates 2. Dr. Emails Instructions	5	6 Dr D Discusses Process at All-Hands	7	8	9 Teams Submit Zip by 11:59pm
10 1. Dr D Edits Artwork 2. Dr Posts Artwork 3. TAs Edit Proj Desc 4. Teams Update Art	11 1. Dr D Discusses Discusses Artwork 2. TAs Discuss Proj Desc 3. Teams Submit Art	12 1. Dr D Edits Artwork 2. Dr Posts Artwork 3. TAs Submit Proj Desc	13 1. Dr D Discusses 2. TAs & JB Discuss PDs 3. JB Edits Proj Desc 4. Teams Submit Art	14	15 1. JB Submits PD 2. TAs & JB Discuss PDs 3. TAs Edit Proj Desc	16 TAs Submit Proj Desc by 11:59pm
17 Dr D Posts Final PDS	18 Dr D Discusses Final PDS	19	20 Dr D Discusses Process at All-Hands	21 1. Dr D Discusses Merges Art & PDs 2. Dr. Posts Final Zips	22	23 Teams Submit Final Zips by 11:59pm
24 Dr D Submits Assets to Designer	25	26	27	28	29	30
31	Nov 1	2	3	4	5	6

Submission

- READ Submission Instructions Carefully
- Zipped Assets Folder
 - Folder Name: team-urban-science-design-day-booklet-page
 - Contents
 - team-urban-science-design-day-booklet-page.docx
 - team-urban-science-artwork-1.png (Very High Resolution)
 - team-urban-science-artwork-2.png (Very High Resolution)
 - team-urban-science-artwork-3.png (Very High Resolution)
 - Delete unused placeholder artwork files.
 - Zip Filename: team-urban-science-design-day-booklet-page.zip
- Upload to Microsoft Teams
 - General Channel File Space
 - Folder Named design-day-booklet-team-zip-files
 - Team's Private Channel File Space
 - Due 11:59 p.m., Saturday, October 9. ← **This Saturday**

Team Photos

[1 of 7]

- Everyone Submits Individual Photos
- Photographer Photoshops Into Team Photo



Team Photos

[2 of 7]

Team Volkswagen Individual Photos



Team Photos

[3 of 7]

Team Volkswagen Team Photo



Team Photos

[4 of 7]

Team TechSmith Individual Photos



Team Photos

[5 of 7]

Team TechSmith Team Photo



Team Photos

[6 of 7]

■ Individual Photos Requirements

- Dress
 - ❖ Business
 - ❖ Very Nice Business Casual
- Front Facing
- Hands down to the sides
- Hands out of pockets
- $\frac{3}{4}$ Length, Just Below Knees (Including Hands)
- High Resolution as Possible
- Solid Background
- Good Lighting
- Relaxed
- jpeg



Team Photos

[7 of 7]

■ Submission

- Use Google Form (Link Emailed to You)
- ~~○ September 17, 11:59 p.m.~~
- Failure to Submit
 - ❖ Not in Team Photo
 - ❖ Points Deducted from Team Contribution
- May Elect Not to Be in Team Photo
 - ❖ Religious Reasons
 - ❖ Cultural Reasons
- Photographer May Require You to Resubmit

Design Day Grade

- 5% of Final Grade
- Two Factors
 - Design Day Booklet Team Page Process
 - Design Day
 - Performance In Person
 - Beta Presentation in Lieu of In-Person Design Day
- Formula
 - $BPG = \text{Beta Presentation Grade}$
 - $DDBPD = \text{Design Day Booklet Process Deductions}$
 - $DD \text{ Grade} = 5.0 - DDBPD$
- Design Day Booklet Process Deductions Including But Not Limited To...
 - Project Description Errors and Effort to Rewrite
 - Artwork Errors and Effort to Correct
 - Failure to Use Windows Version of Office 365
 - Submission Errors



What's ahead?

[1 of 2]

- Upcoming Meetings
 - ~~10/06: Design Day Booklet Production Process~~
 - 10/11: Resume Writing and Interviewing
 - 10/13: Creating and Giving Presentations
 - 10/18: Alpha Presentations
 - 10/20: Alpha Presentations
 - 10/25: Break Days
 - 10/27: Alpha Presentations
 - 11/15: Beta Presentations

What's ahead?

[2 of 2]

- Important Dates for Planning

- ~~09/26: Project Plan Slide Decks Due~~

- ~~09/27: Project Plan Presentations Start~~

- Start Working Towards Alpha Presentation ←Key

- 10/09: Design Day Booklet Zip File Due ←Saturday

- 10/11: Design Day Updated Artwork Due

- 10/17: Alpha Slide Decks Due

- 20/18: Alpha Presentations Start

- Start Working Towards Beta Presentations ←Key

- 11/14: Beta Slide Decks Due

- 11/15: Beta Presentations Start

- Start Working on Project Videos ←Key