#### **MICHIGAN STATE** UNIVERSITY **Alpha Presentation MSU Enviroweather Mobile The Capstone Experience** Team MSU Enviroweather **Emily Dubuque Frederick Pagadam Haoxiang Zhang** James Noh Malachi Hollins Michael Moss Department of Computer Science and Engineering **Michigan State University**

Spring 2024



From Students... ...to Professionals

#### **Project Overview**

Enviroweather is a free online resource

 They gather weather information to produce pest, plant, and weather models for Michigan growers.

 Converting web application to mobile application

 Prove that the viewing of Enviroweather models can be improved on mobile by creating a native mobile application

# System Architecture



## Latest Observations Map

4:33	438	0%
🗮 Q Search	≡ Q Ithaca :	×
rson City .Ashley	< Latest Observations	
Elsie	Weather Forecast StationOver	view
.Fowler Saint Johns	Temperature         Humidity           38.2*F /         48.6%           3.44*C         48.6%	
Westphalia Ind DeWitt Pe	Dewpoint Precipitation 20.6*F / 0.0 in. -6.33*C	1
Lansing. East Lansing Willia	Leaf Wetness (standard) 0% of last hour Wet hours today (02/19/2024) = 8	
Mason <sub>Dansvill</sub> Eaton Rapids	Wind SSW 2.2 mph (hourly ave.) 0.8 mph (5min ave.)	
Leslie .	Data last collected: 02/19/2024 03:00	) PM

Team MSU Enviroweather Alpha Presentation

### Meteogram

	(MM/DD/YYYY) 19/2024	۵
ast	Lansing / (MSUHTRC)	~
ho	urs 🗸 US	~
	submit	
8	Temperature Temperature, Dewpoints and more data	N/A
۵	Rainfall Rainfall, Relative humidity, and Leaf Wetness	N/A
1	Wind Wind Speed and Wind Direction	N/A
÷	Solar Solar Radiations, RPET and Logger Voltages	N/A
n		ð



# **Regional Rainfall Summary**

- Rainfall Station			Date (MM/8 02/19/2024	D/YYYY)	۵
Aetna / Fremor	nt	22	Aetna / Fre	mont	v
Date	]			Submit	ŧ
02/19/2024			Date	Min Temp	Max Temp
			2024-02-2	34.0	46.9
tart acculating on	·	100	2024-02-2	31.8	45.1
January	5	1922	2024-02-2	23.9	43.2
otal		24	2024-02-1		38.1
Closest 5 statio	ins		2024-02-1	19.4	32.6
Submit			E	Export C	sv
tion Rainfall since	. Rainfall hour	1.50		Share Li	nk

# Temperature, Rainfall, and Degree Day Summary

egr	ee day summa	ary		otal			
8	Regional Degree D	ay		(	Closest 5 statio	ons	
X	Regional Degree D	ay			Submit		
Sumr	mary						
lat.	Meteogram	Soil Conditi	n Sta	tion	Rainfall since.	Rainfall	hours
*	Overnight temperat	ture	Fre	tna / mont	39.366	64	
		Reem	eman / F iont-Wes	40.642	62		
Temperature, Rainfall and Degree     Day Summary	Fre	mont	50.538	72			
	Elb	ridge / rt	37.084	57			
		Gra	ant	49.874	70		
				Expand Tabl	e		
				Export CSV			
					Sharable Lin	k	

# **Offline Support**

<ul> <li>Station List</li> <li>East Lansing / (MSUHTRC) Grand Rapids, MI</li> <li>Leslie (GLBRC) Grand Rapids, MI</li> <li>East Lansing / (MSUHORT) Grand Rapids, MI</li> </ul>	← Linwood / Kawkawlin Downloaded at 2024-02-19, 12:23:30 p.m. 50 45 40 35 30 25 20 15 10 5 0

#### What's left to do?

- Style application differently as app is shown to our stakeholders

   May require changing libraries we use
- Optimize performance on iOS and Android
- Apple scab and oriental fruit moth models
- Recreate models for map view
- Finalize CSS and Animations

#### **Questions?**

