

# Creek Watchers App & Website



By Dylan Larrabee



# Introduction

- Me and 2 other group members began development of an android app and website for the Creek Watchers group located here in Salisbury.
- The Creek Watcher's main goal is to collect various types of data about local rivers and ponds.
- Our goal was to make an android app to make this process more straightforward, efficient, and less prone to "bad data".
- We later implemented a website with an attached database for data to be stored and viewed

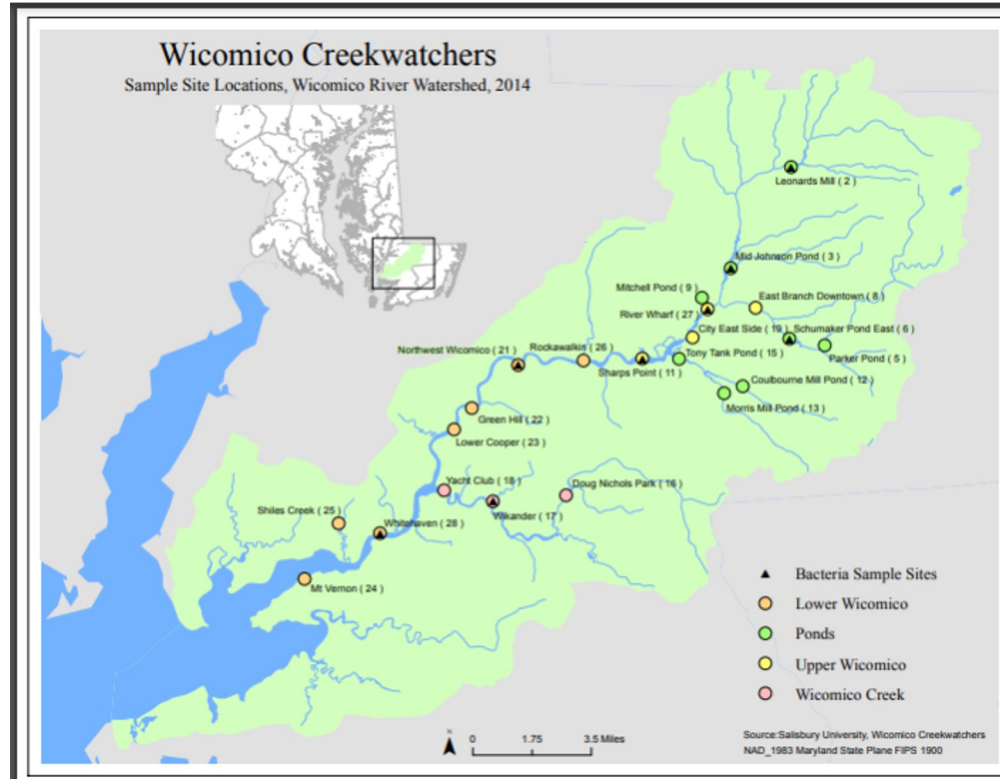


## Tools Being Used



- Java is the programming language used to code functionality
- XML is the markup language used to stylize the pages
- Android studio is used as the IDE of choice
- GitHub is being used for collaboration and project storage

# The Site Locations





## Goals of the App

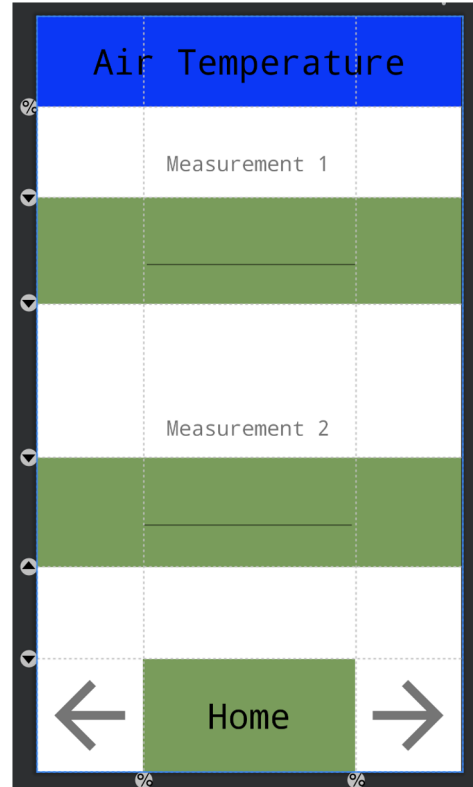
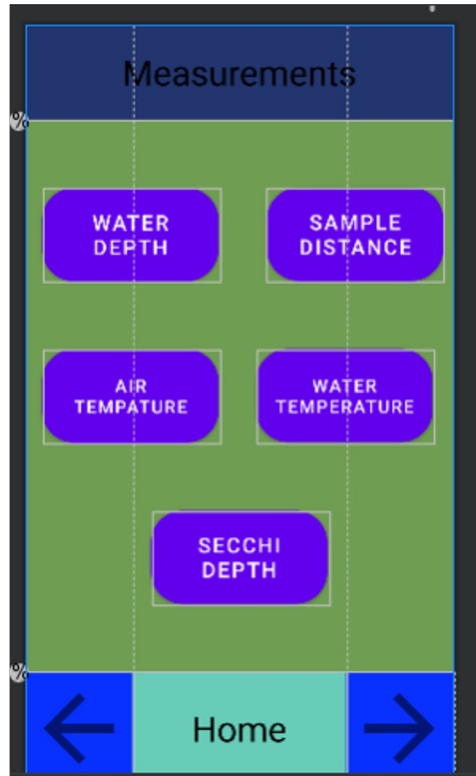
- Create a user friendly interface for data collection
- Create error checking to prevent impossible or unlikely values from being entered
- Accessible to all ages
- Easy submission of data
- Create a system for the Creek Watcher leaders to view and alter data as needed

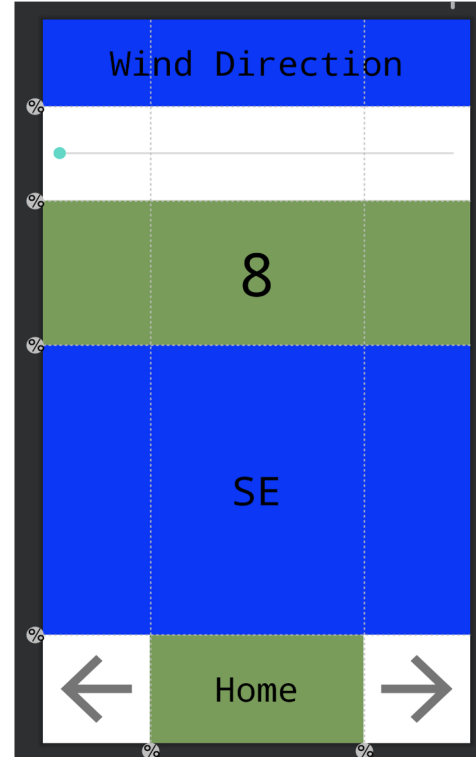
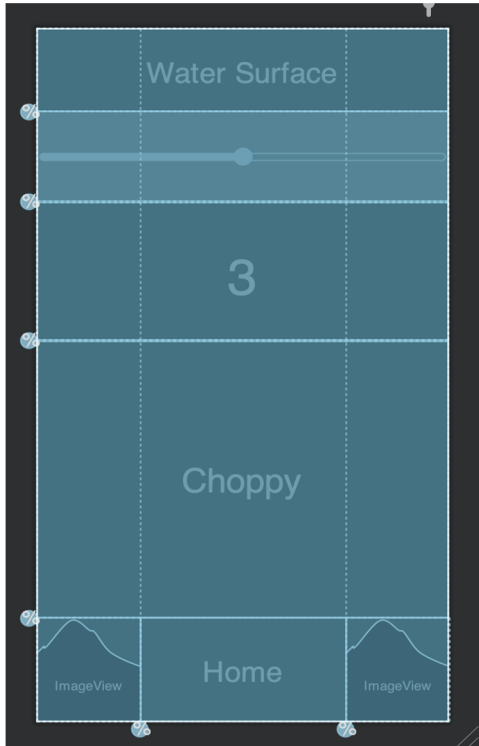


# App Design

- Form Selection: Create new form or edit old one
  - If new, enter new name or select saved one
- Site Selection: 26 total sites to choose from
- Home Page: Access to all other content in app
- Data Collection: Different menus for estimated values and precise measurement values as well as comments page.
- Data Review: Overview of all the data values to enter or edit

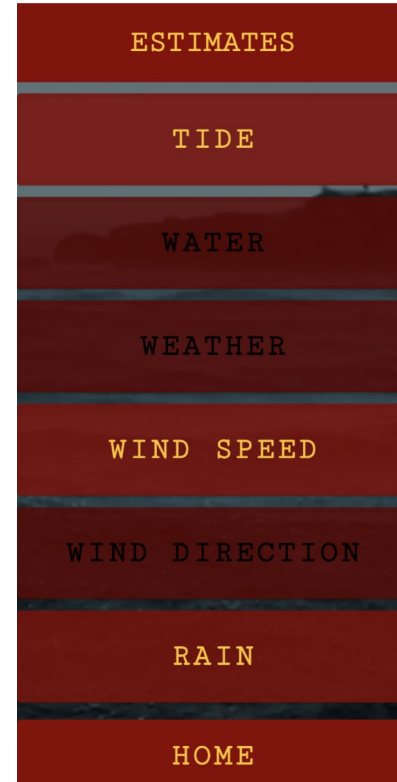
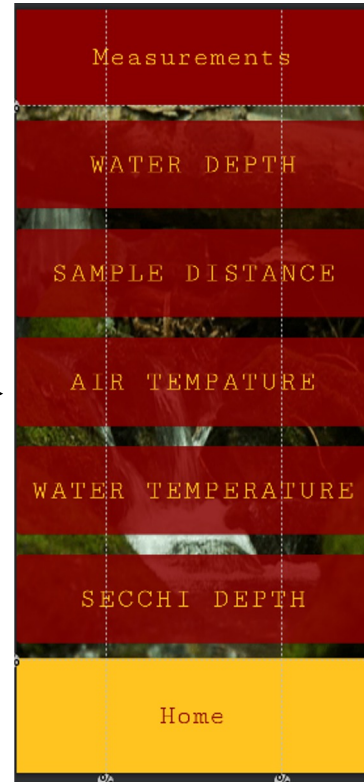
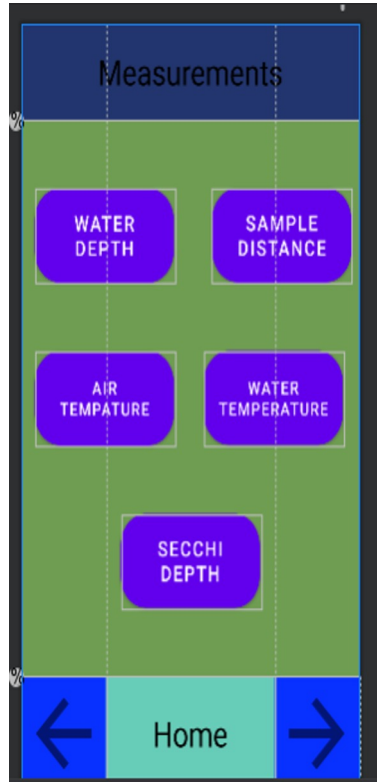
# Early Design

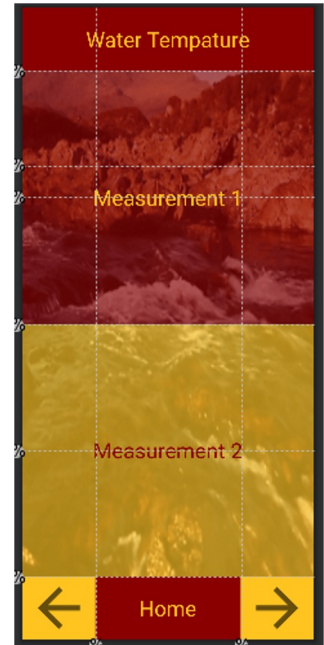
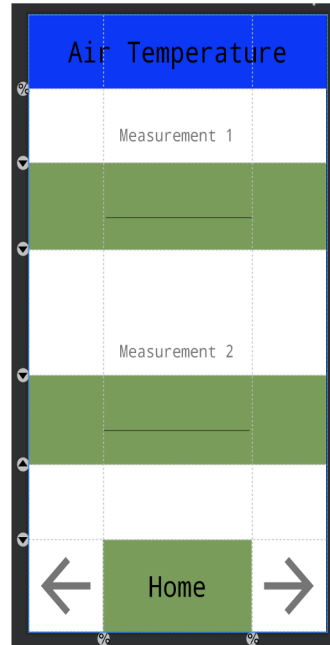
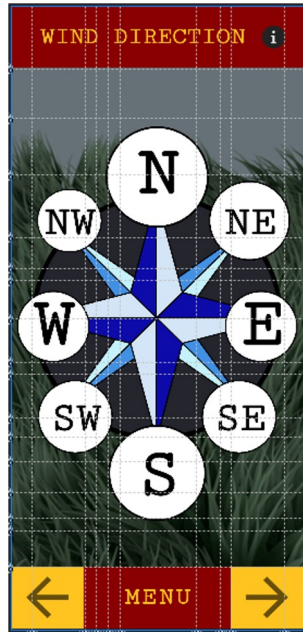
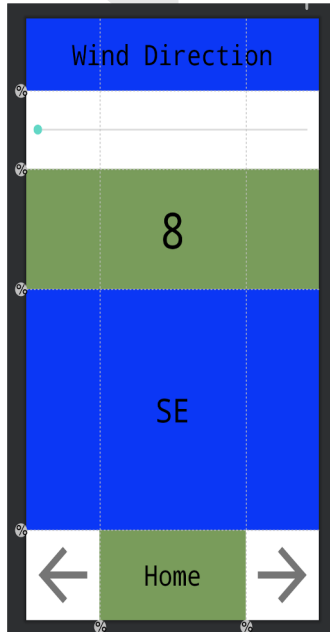






# Revised Design







## The Final Product

- Many visual and quality of life changes were made
- Color and theme adjustments for the sake of visibility
- Submission of data to creekwatchers website



# Website Design

- Simple and Straightforward
- User login to allow administrative viewing and editing of data
- Publicly viewable graphs based on collected data
- Database implementation to store collected data (using Firebase)



# Login/Entry Page

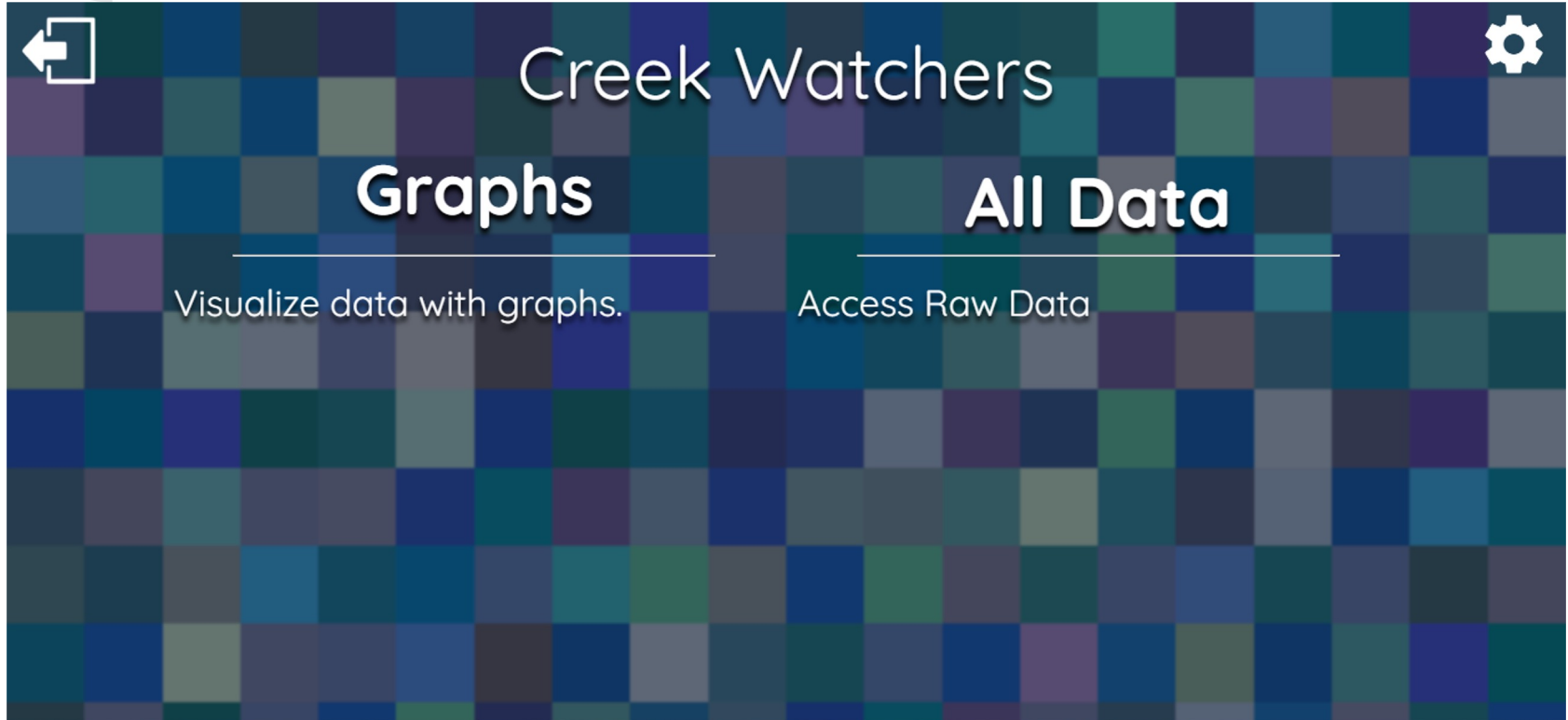


## Creek Watchers

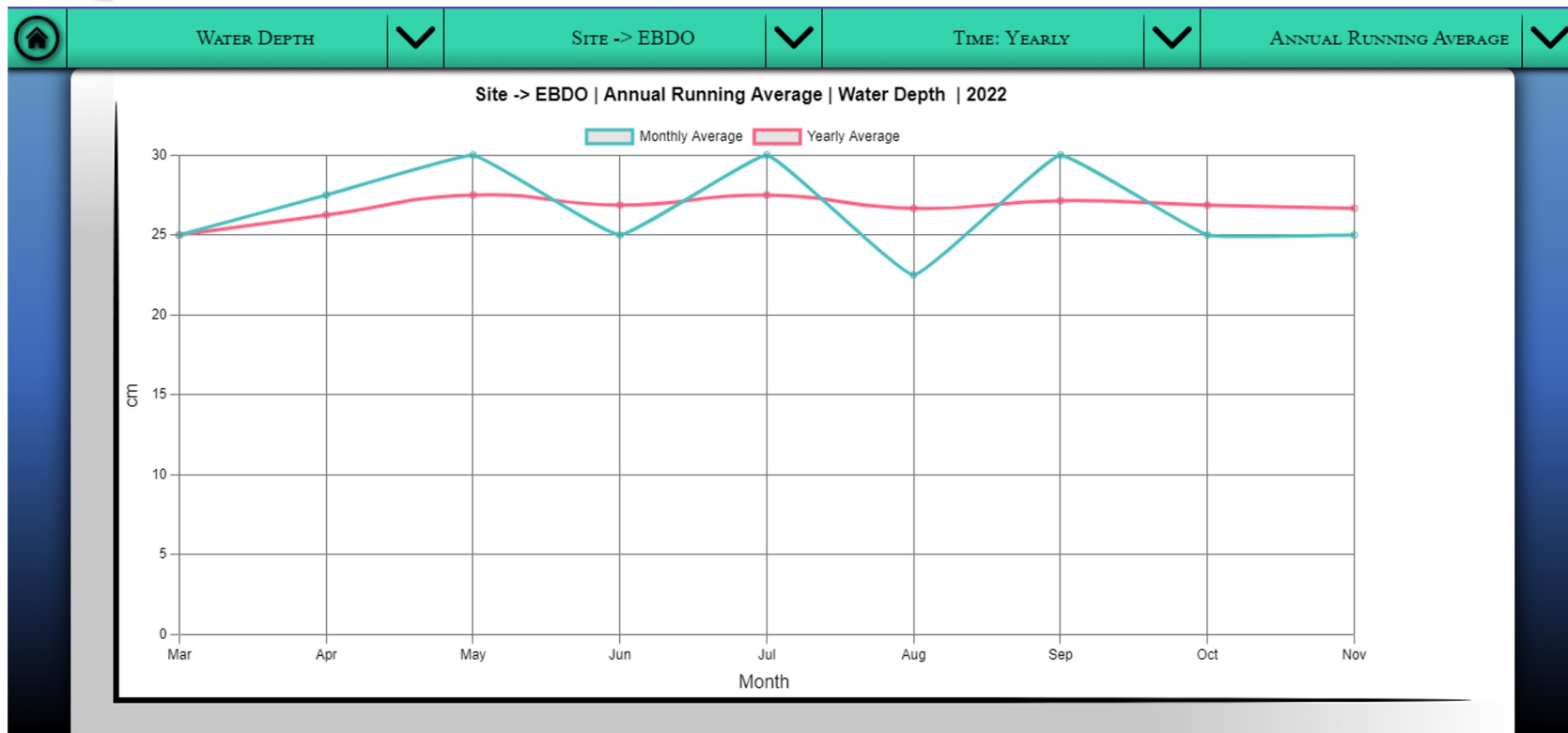
Login

Guest

# Admin Home Page



# Graphs (Publically Viewable)

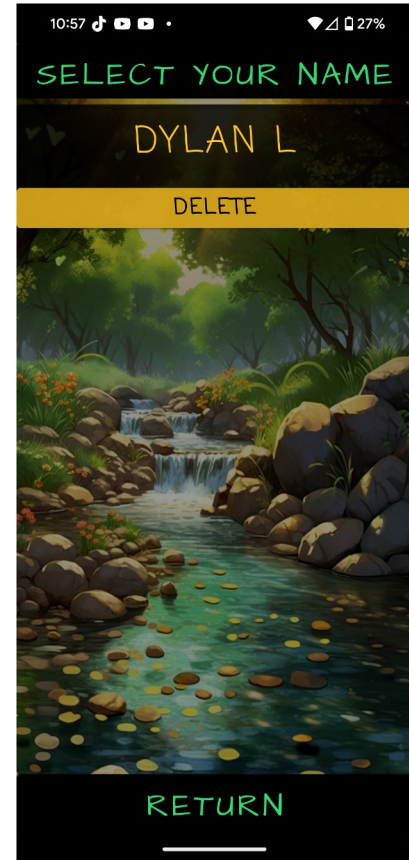
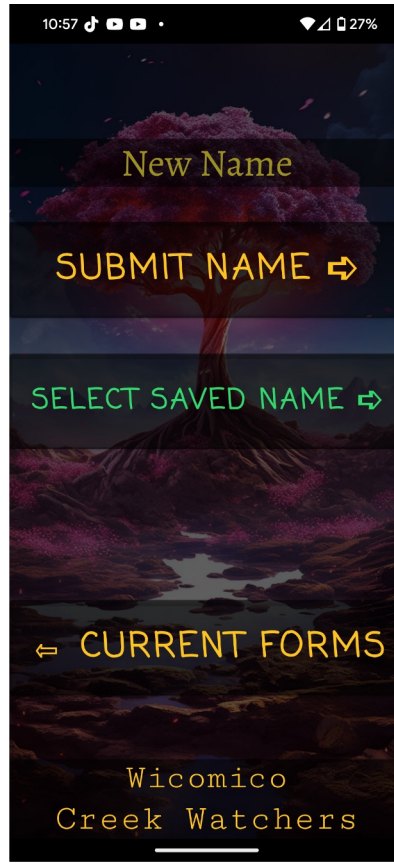


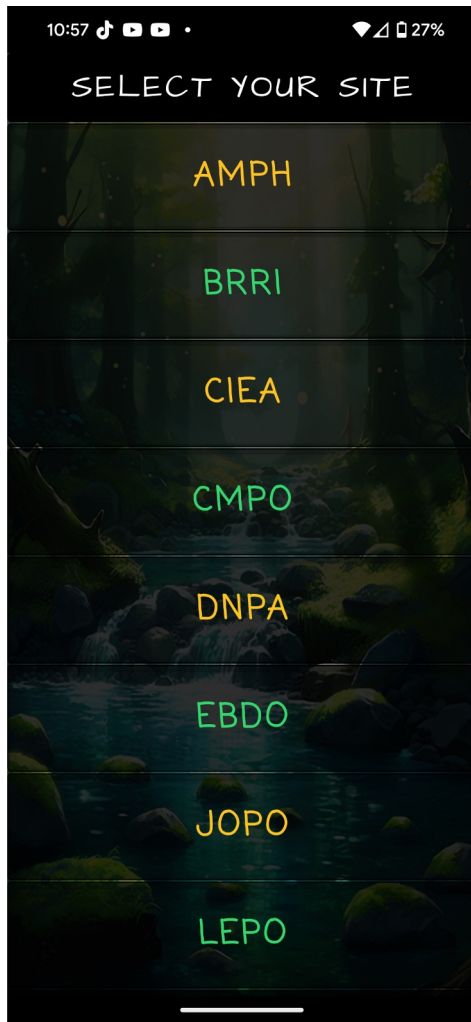
# Data Section (Admin view only)

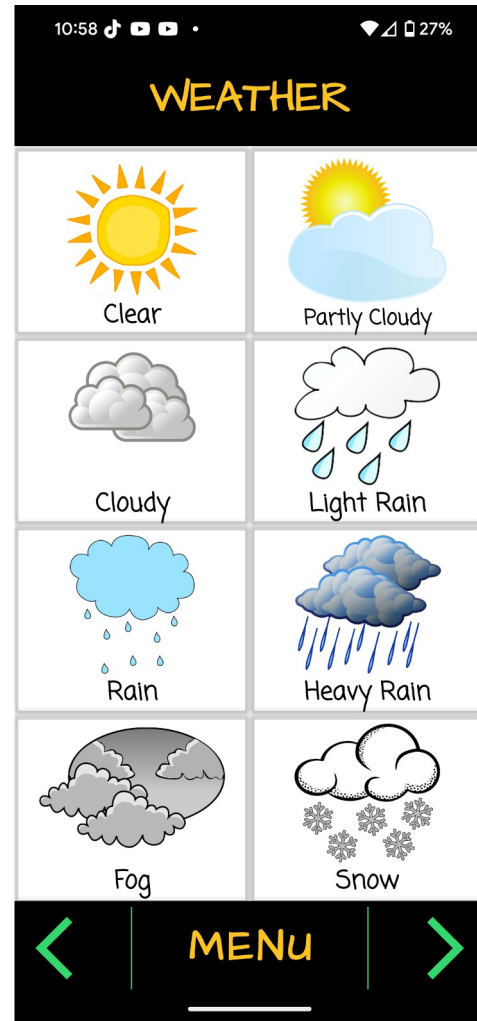
NAME	DATE	SITE	TIDE	WEATHER	WATER SURFACE	WIND SPEED	WIND DIRECTION	RAINFALL	WATER DEPTH	SAMPLE DISTANCE	AIR TEMPERATURE	WATER TEMPERATURE	SECCI DEPTH	BOTTOMED OUT	TUBE USED	PLASTIC BOTTLE	GLASS BOTTLE	COMMENTS
CreekWatche	2022-05-10	MTVE	High	Clear	Ripples	Calm	South West	Unusual Storm	218	20.0 ft	16.7	14.2	72	false	false			
CreekWatche	2022-09-27	WHVN	Low	Clear	Choppy	Light	nan	Unusual Storm	90	100.0 ft	20.7	22.2	65	false	false			
CreekWatche	2022-07-12	PIWH	Low	Clear	Ripples	Light	nan	Unusual Storm	10	5.0 ft	25.4	26.7	5	false	false			
CreekWatche	2022-03-29	AMPH	Middle Flooding	Clear	Ripples	Calm	nan	Heavy	148	1.0 ft	2.8	9	107	false	false			
CreekWatche	2022-05-15	PAPO	Non-Tidal	Clear	Heavy Chop	Medium	nan	Light	20	10.0 ft	22.1	12.3	75	false	false			
CreekWatche	2022-07-12	NITH	Middle Flooding	Clear	Calm	Calm	nan	Unusual Storm	160	60.0 ft	30.7	28.6	35	false	false			
CreekWatche	2022-05-24	LOCO	Middle Falling	Light Rain	Choppy	Light	West	Light	2.7	50.0 ft	14.8	24.3	45	false	false			
CreekWatche	2022-07-12	MTVE	Middle Flooding	Clear	Heavy Chop	Medium	nan	Unusual Storm	101	6.9 m	34.5	26.7	30	false	false			

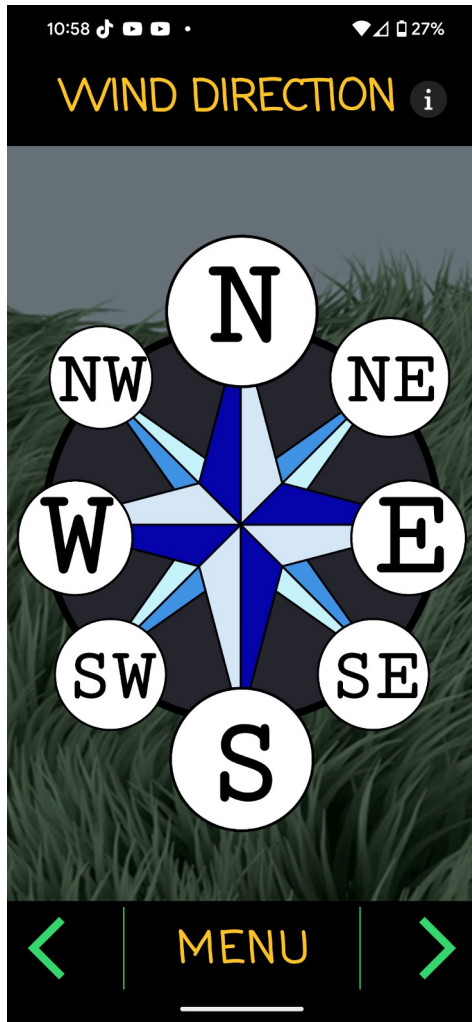


# The App









# WATER DEPTH



MEASUREMENT

# SAMPLE DISTANCE



MEASUREMENT

# AIR TEMPERATURE



32.0 °C

13.0 °C

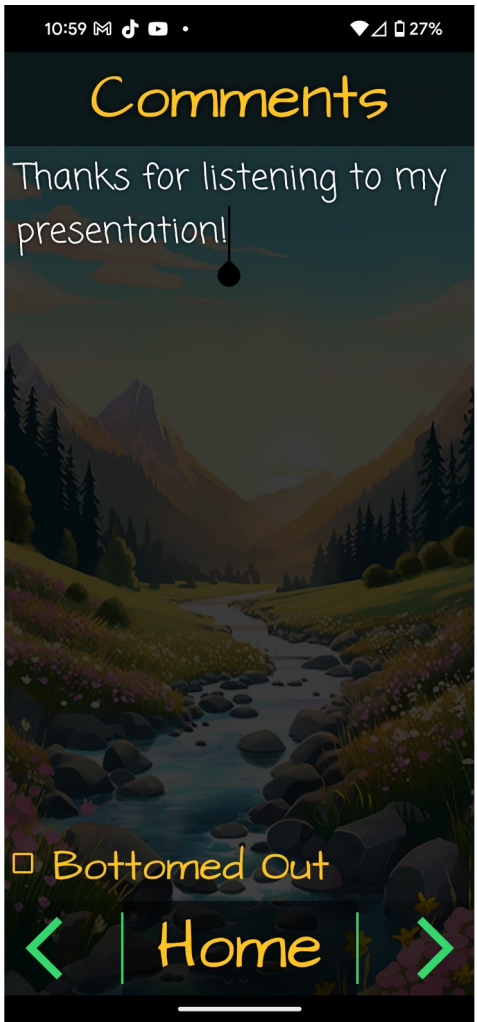


# Comments

Thanks for listening to my presentation!

□ Bottomed Out

< | Home | >



10:59 [icons] 27%

**REVIEW**

WIND DIRECTION  
Tap to set

RAIN  
Tap to set

WATER DEPTH  
Tap to set

SAMPLE DISTANCE  
Tap to set

AIR TEMP  
32 °C, 13 °C

WATER TEMP  
Tap to set

SECCHI DEPTH  
Tap to set

**SUBMIT**

11:00 [icons] 27%

**REVIEW**

WIND DIRECTION  
N

RAIN  
Heavy

WATER DEPTH  
2 cm

SAMPLE DISTANCE  
2 m

AIR TEMP  
32 °C, 13 °C

WATER TEMP  
1 °C, 2 °C


SECCHI DEPTH  
238.5 cm, 111.11 cm

**SUBMIT**

11:00 [icons] 27%

**SUBMIT**

Form  
Submitted



Thank you  
for being a  
Creekwatcher!

**HOME**





**Any Questions?**