

## Internet of Things and Rapid Prototyping Bootcamp – Project Proposal

Project Name: <u>Midterm 2 - SMART HOME PLANT WATERING SYSTEM</u>					
Student Name: <u>Ahmad Mudebe</u>			Due Date: <u>3-24-2025</u>		
Project Motivation and Overview: <u>I want to show simple ways to design something with accessibility in mind from the get go. I will include some cool features in the smart watering system.</u>					
Minimum Features:					
<ul style="list-style-type: none"> <li>• <u>Emitter follower + Relay, Sensors: BME, moisture, dust, AQ, OLED, H2O pump</u></li> <li>• <u>Adafruit: Publish soil &amp; room readings to dashboard.</u></li> <li>• <u>↳ Button in dashboard manually turns on H2O pump.</u></li> <li>• <u>H2O pump activates for 1 second based on moisture sensor.</u></li> <li>• <u>Sensor readings show on OLED</u></li> </ul>					
Desired Features:					
<ul style="list-style-type: none"> <li>• <u>Text or email alert if any of the sensors go out of certain ranges.</u></li> <li>• <u>Traffic light to show soil moisture.</u></li> <li>• <u>3D-printed braille labels, /non-cluttered /easy to see parts &amp; flow.</u></li> <li>• <u>Large font descriptive signs &amp; pictograms.</u></li> <li>• <u>H2O reservoir is a container that the flower pot sits in, like a discreet design.</u></li> </ul>					
Stretch Goal Features:					
<ul style="list-style-type: none"> <li>• <u>A 3-button panel so the audience can rate plant health, which is then published to dashboard.</u></li> <li>• <u>More effective use of code, including libraries, because I want to write smarter, not harder.</u></li> <li>• <u>+ low H2O reservoir alert</u></li> </ul>					
Anticipated Components:					
<ul style="list-style-type: none"> <li>• <u>2N3904, BME + B, moisture + AQ and/or dust, OLED</u></li> <li>• </li> <li>• </li> <li>• </li> </ul>					
Concerns and Considerations (Project Risks and Potential Mitigations)					
<ul style="list-style-type: none"> <li>• <u>I will test &amp; demo each component, function or feature on its own. This</u></li> <li>• <u>will help me isolate problems when they come up.</u></li> <li>• </li> </ul>					
Other Information:					
Project Implementation Timeline:					
Tasks	Day/Week 1	Day/Week 2	Day/Week 3	Day/Week 4	Day/Week 5
Finalize Project Plan	X				
Tues Backbone items: Proposal, Github, design, Hackster Schematic, fritzing, get feedback					
Wed Function: getting everything to work one piece at a time & then all together					
Thurs re: sensors code, adafruit code					
Fri Fuse then presentation, get feedback					
Sat Refinement from feedback					