

Design Specification Considerations

Please answer the following questions.

1. What do you want your project to do?

- I want to be able to collect rain water and turn it into drinkable/usable water.

2. Is the project for you or someone else?

- I went to Hawaii this summer. An area of an island is very dry but gets a good portion of its water from rain. This is a way to collect rain and make it safe for use.

3. If someone else, have you talked to them about design specs?

- No

4. Are you considering a group project? What is your part

- No

5. Will your project be inside or outside?

- My project will work outside as it needs to collect water.

6. Will your project be portable?

- Yes, I hope to have a detachable piece to collect water and a detachable water bottle at the end.

7. Will your project connect to the Internet?

- Probably not, I want to add sensors so that the system knows when the tank and water bottles are full, but I won't need internet for that.

8. Will your project use Bluetooth?

- No

9. Does your project use a vinyl cutter?

- I will use the Vinyl cutter to print labels of parts and make sure that the user knows which part is which.

10. Does your project use a laser cutter?

- Maybe, I want to build the actual water bottle and collecting system from wood. The water bottle may be metal, but the rain collector needs to be wood.

11. Does your project use a 3D printer?

- Any 3-D printed material is not safe to be in contact with drinking water. I would use 3-d printing for storage of my arduino chip.

12. Does your project use a large CNC machine (Shopbot)?

- Maybe to make my Water Bottle, I don't want to use it for the rain collecting system because I'm afraid of rust.

13. Does your project have intelligence (Arduino, Raspberry Pi, computer)?

- I may use a chip like an arduino to sense when the water levels reach a point.

14. What are your project inputs?

- Dirty rain water

15. What are your project outputs?

- Clean drinking water, than is at a healthy pH

16. How does your project differ from the project that inspired you?

- Many rain storage systems in Hawaii were just tubs, they had no way of purification or any mobility.

17. When was the inspirational project built?

- No specific time.

18. Do you have a tutorial or instructions for your project?

- No

19. How current is the tutorial?

- I don't have one

20. What is the maximum that you want to spend? No more than

\$75.00

- I want to buy a UV light for purification like this one.

<https://www.amazon.com/Philips-325126-9-watt-Germicidal-2-Pin/dp/B00172Y0H4>

- I would also need to get a small amount of sand and silt to filter out large things in the water.
- some metal/wood and an arduino and sensors for the main build.
- I also need a power source. I don't know exactly what I need, so I would hope to get the UVC first and then the power.
- I don't expect to spend more than \$75

21. What are the dimensions of your project?

- The water collector will be a funnel with a radius of around 6 in.
The water bottle will be about 24oz.

22. What materials will you use?

- Wood with food safe seals on it.

23. Have you completed the spreadsheet?

- No

24. Are the parts for your project still available?

- Yes

25. Are the tools you need for the project found in the FabLab?

- I think that everything but the UVC light and the sand will
be found in the FAB Lab

26. How will you conceal the electronics?

- I will 3-d a box that attaches to the build and stores the
electronics.