

Rainwater Collection Unit

William Felinski, Manuel Advisory, Capstone 2012

Backdrop

- Tinkering
- Engineering class
- Dominican Republic

Inquiry

- Places
- People

Reflection

- Experience
- Problem

Research

- **Water availability**
- **Collection methods**
- **Purification**

Presentation

- **Housing**
- **Barrels, buckets, bowls**
- **Solar water disinfection**

System

- PET - Polyethylene terephthalate

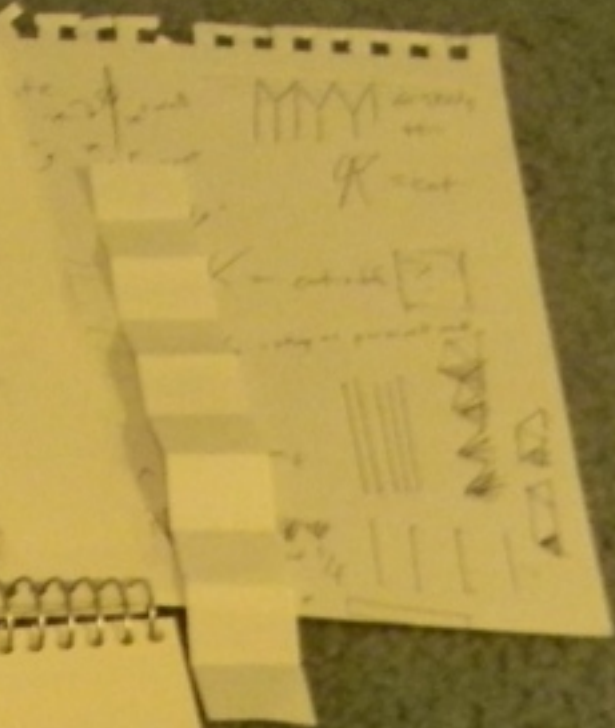
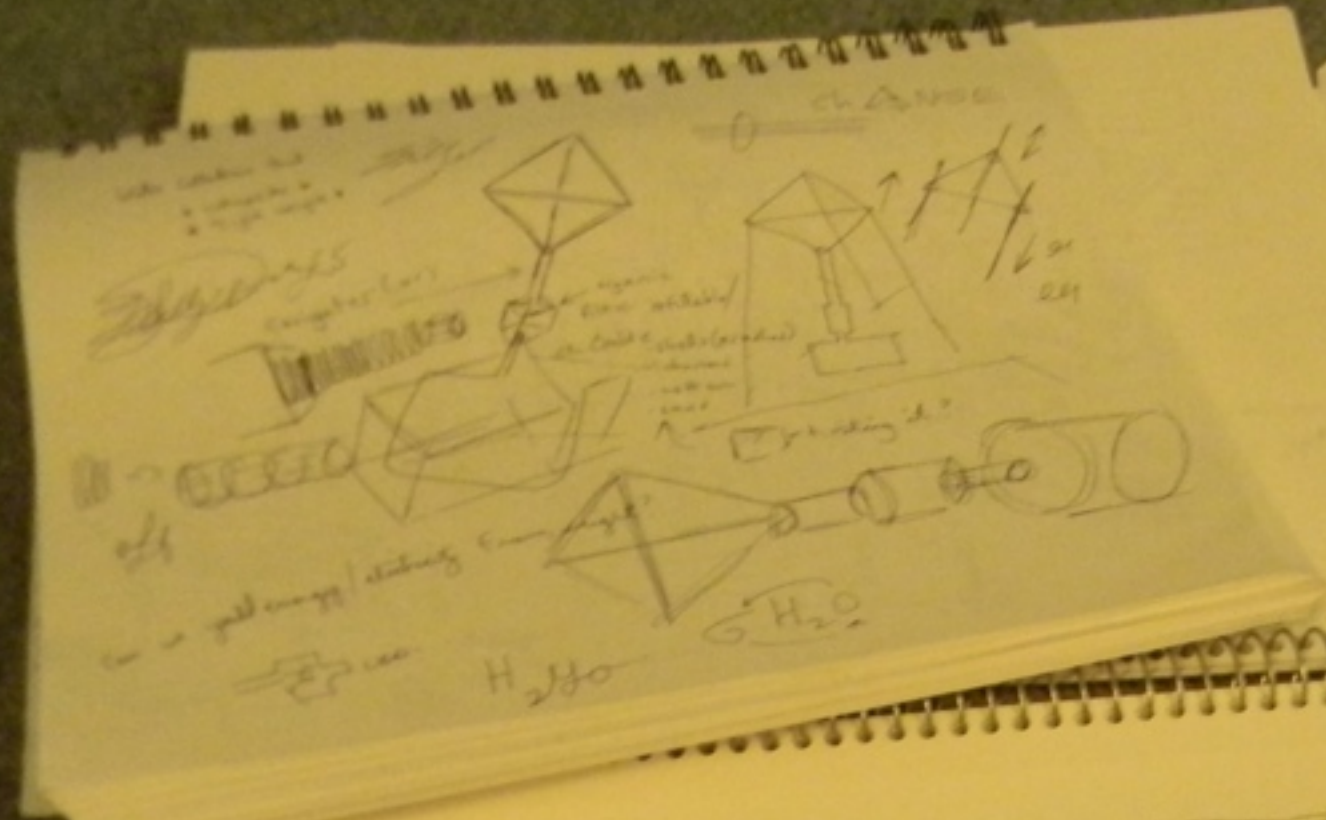


Idea

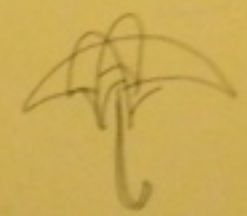
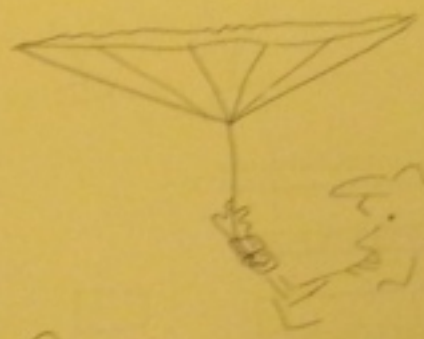
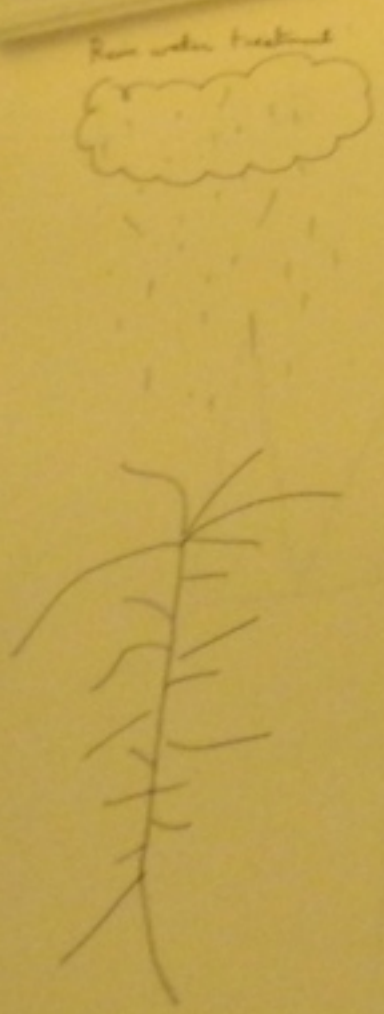
- **Collection**
- **Easy, modular, and inexpensive**

Drafting

- Bags
- Tents
- Tripods
- Buckets
- Umbrellas

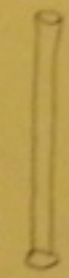


Run water treatment O.K.



attach communal water collection

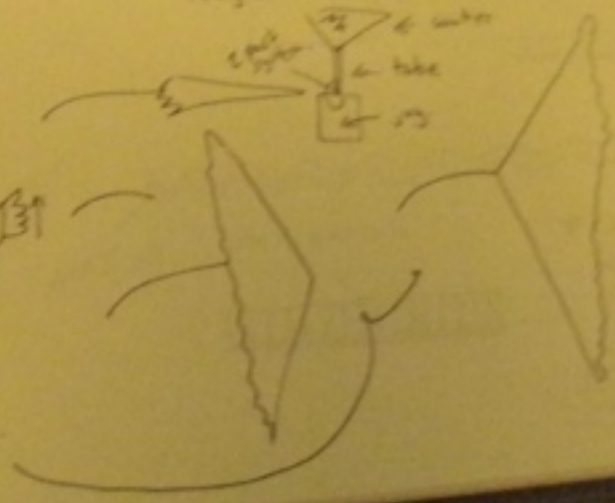
regener collection water

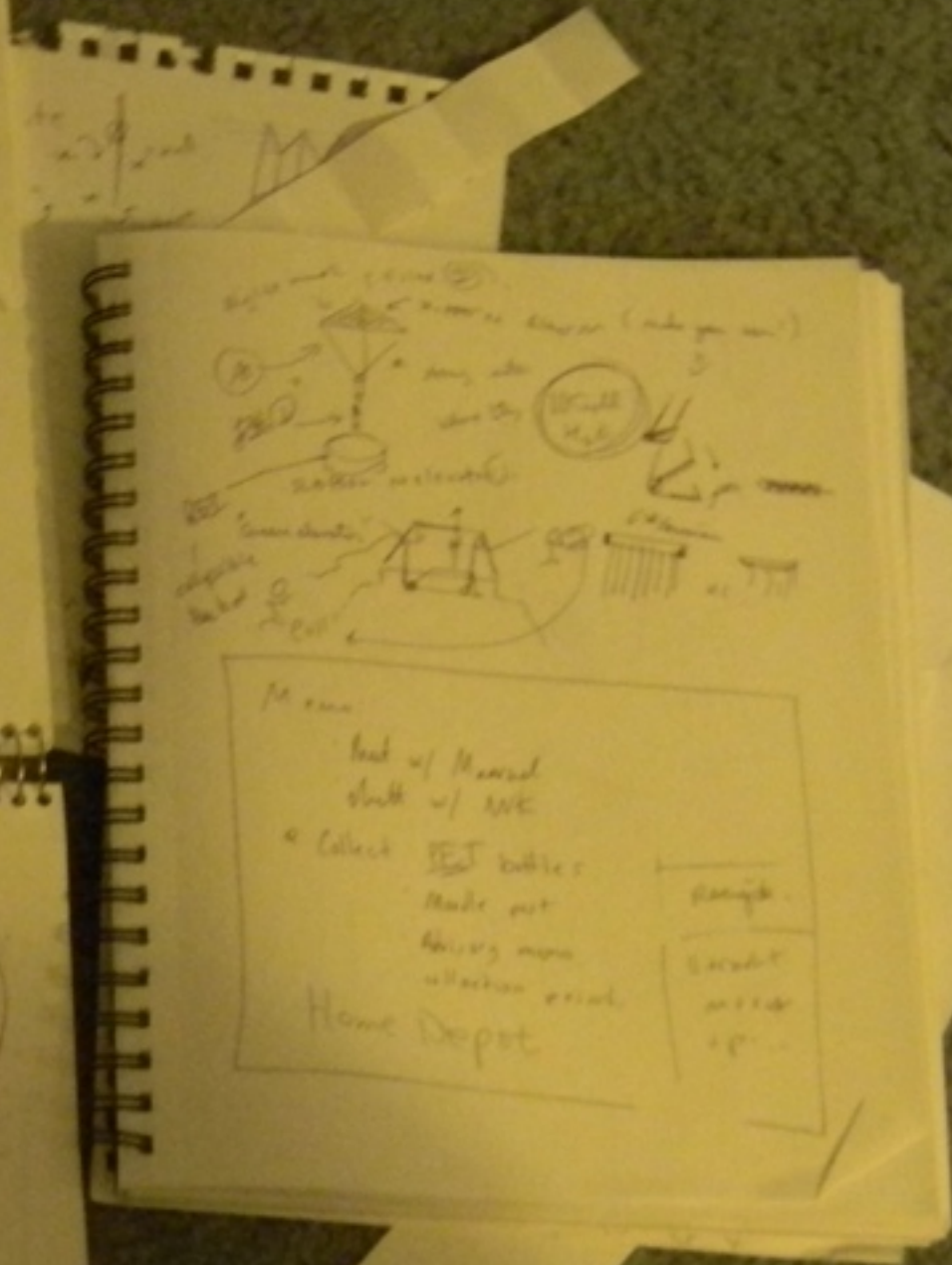
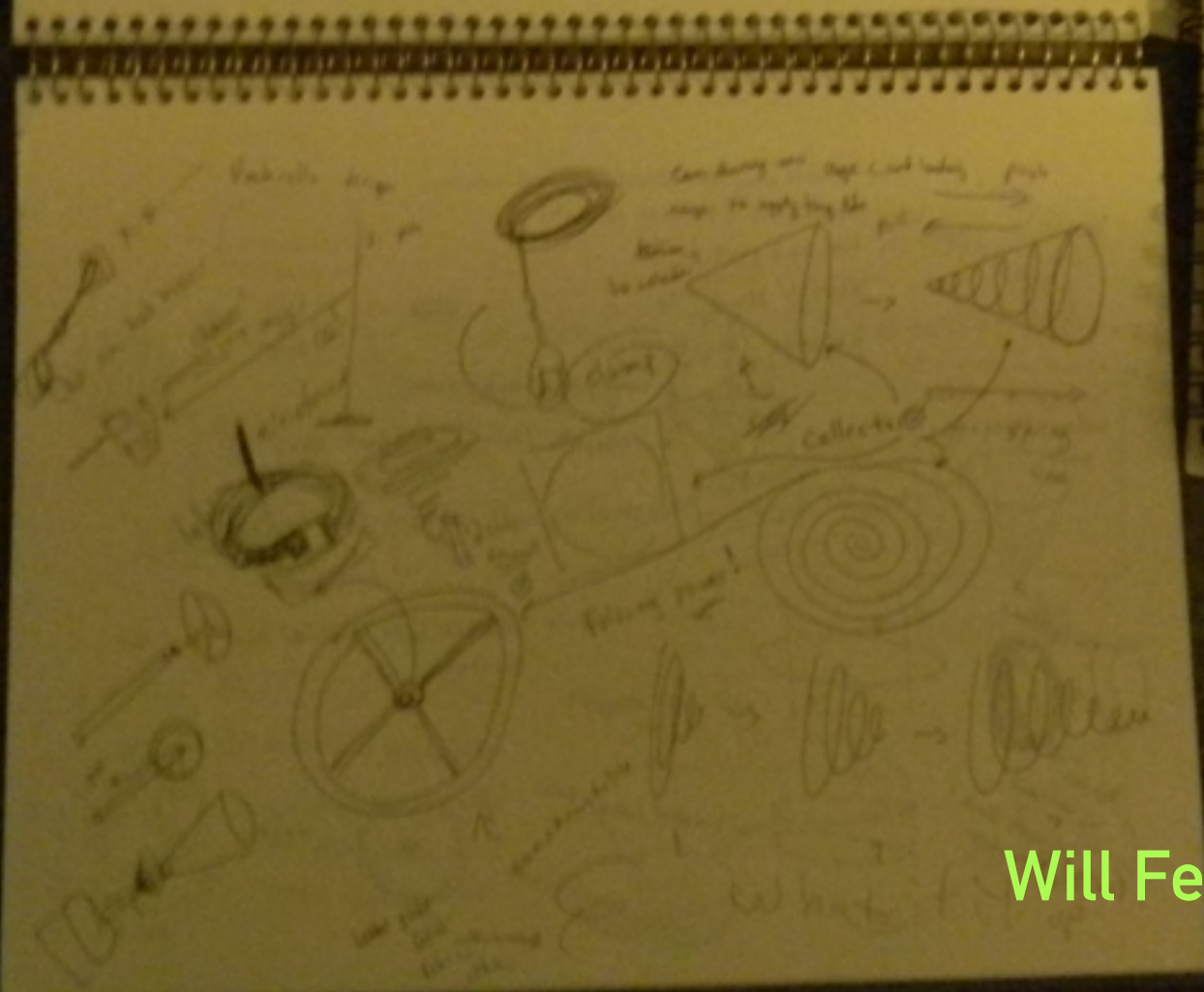
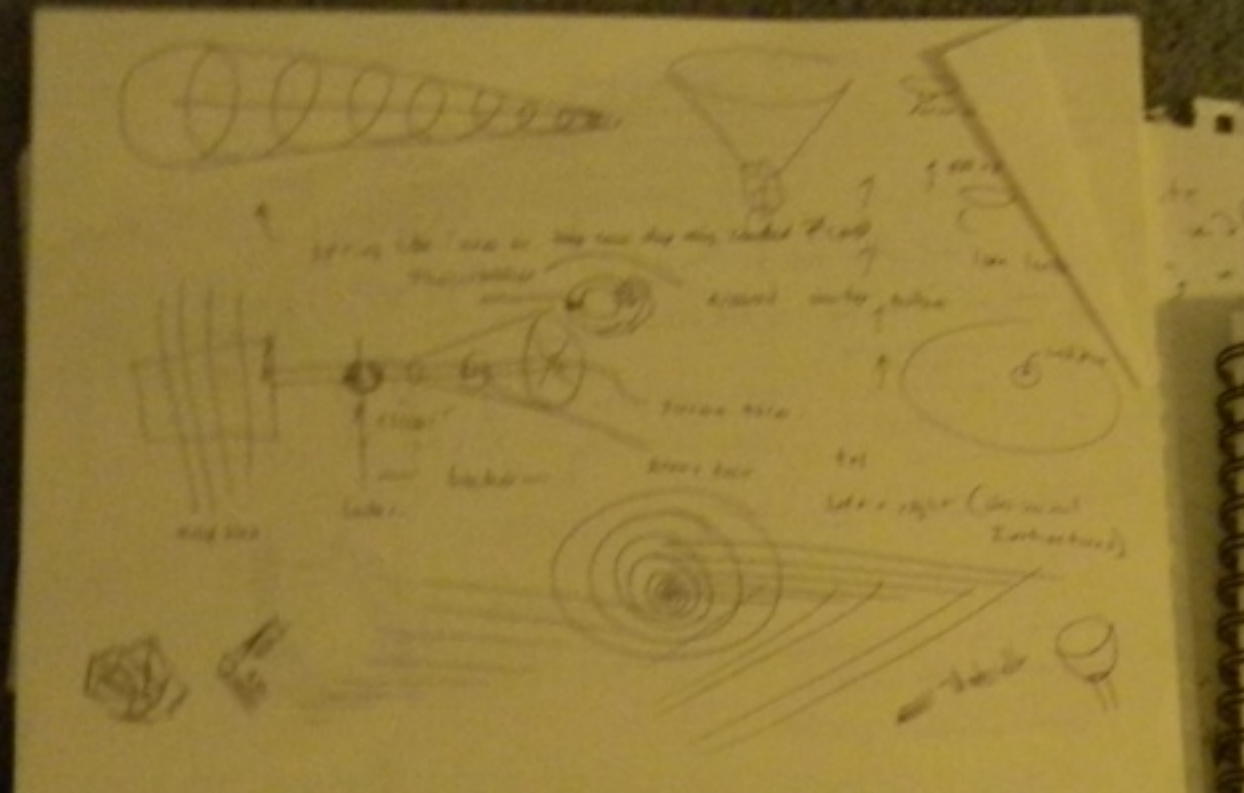


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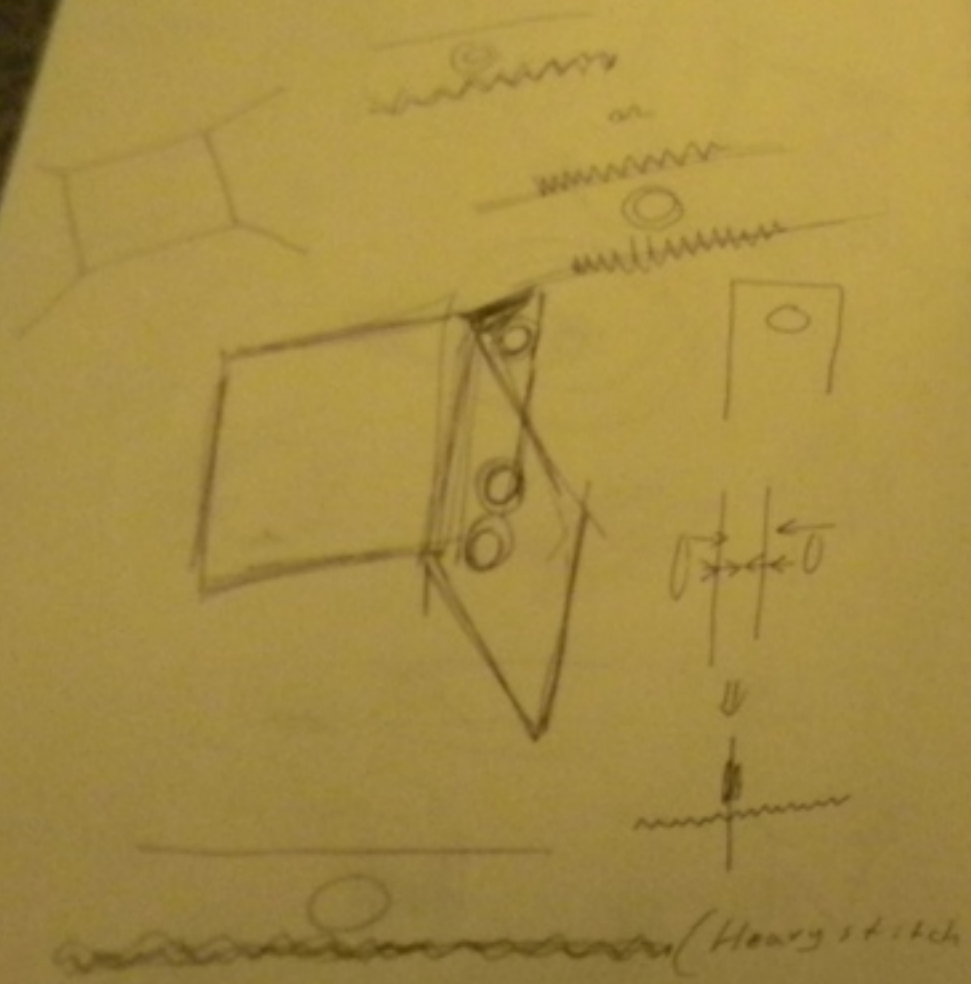
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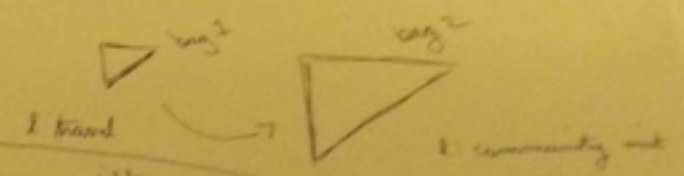




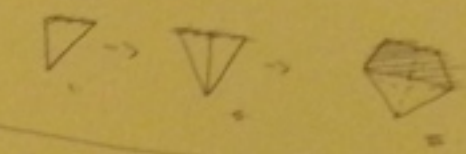
10 min
 End of Market
 Start of 1st
 Collect 1st bottles
 Make pot
 Having more
 attention around
 Home Depot



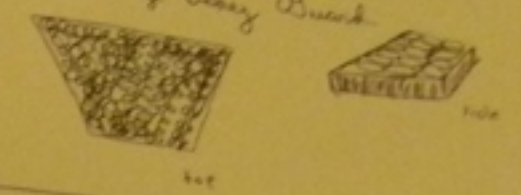
Longing strip



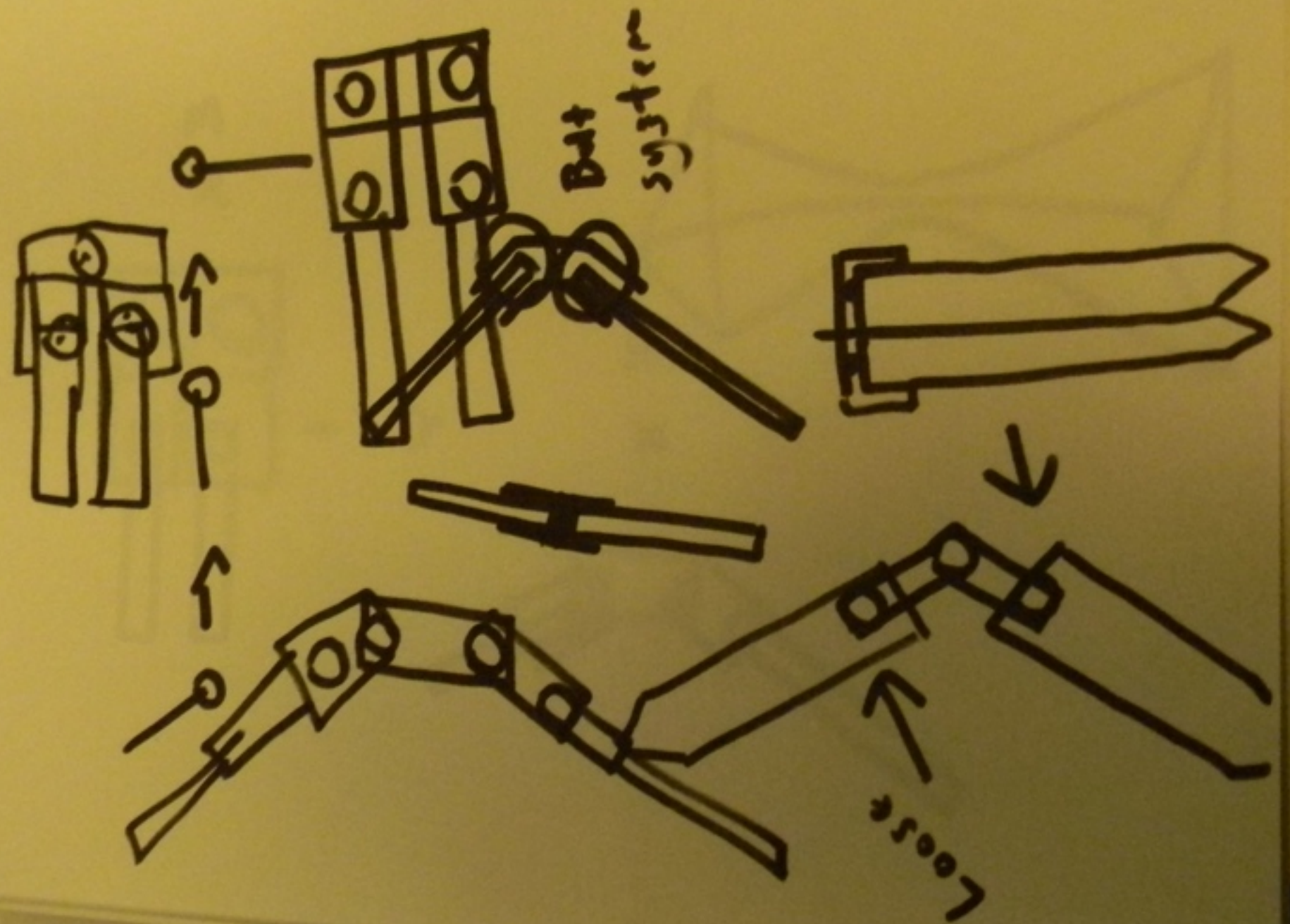
Matrix stability

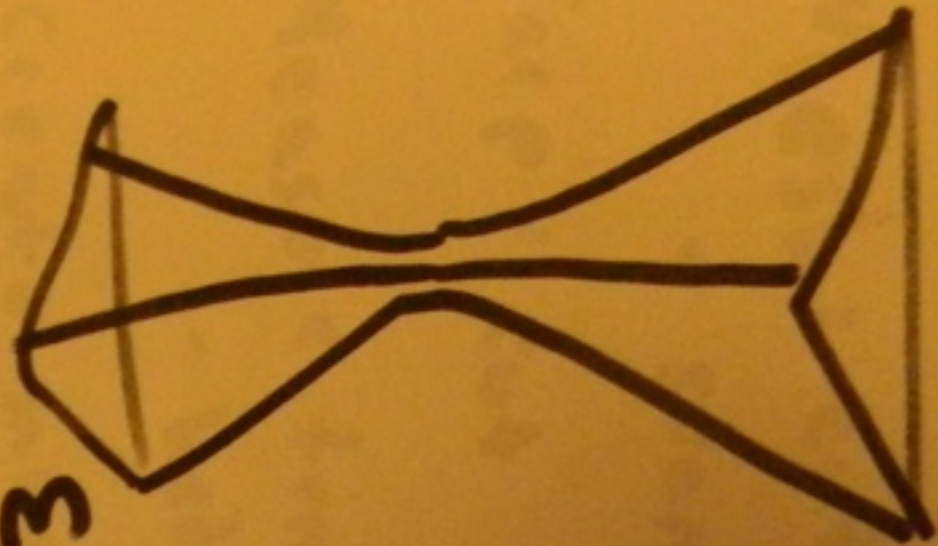
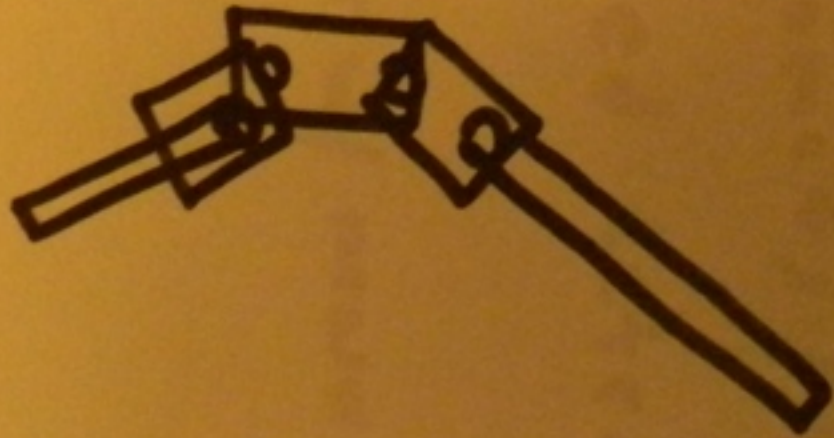
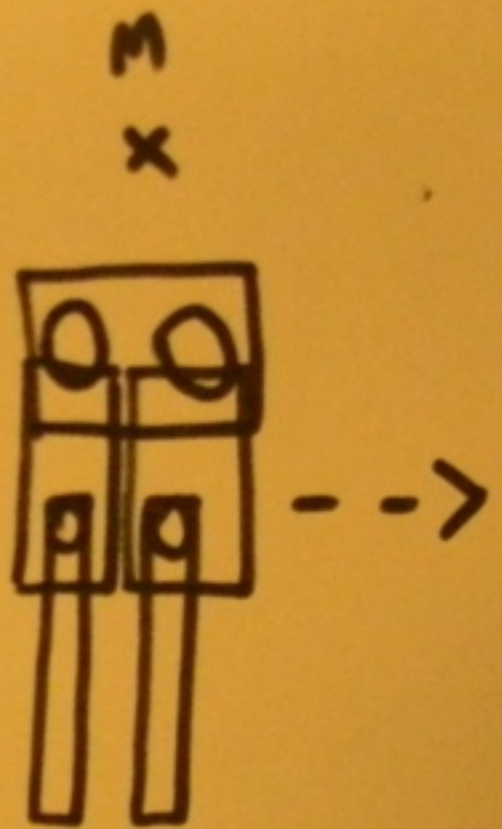


Real Time Delay Band



Temp water collecting infrastructure system w/

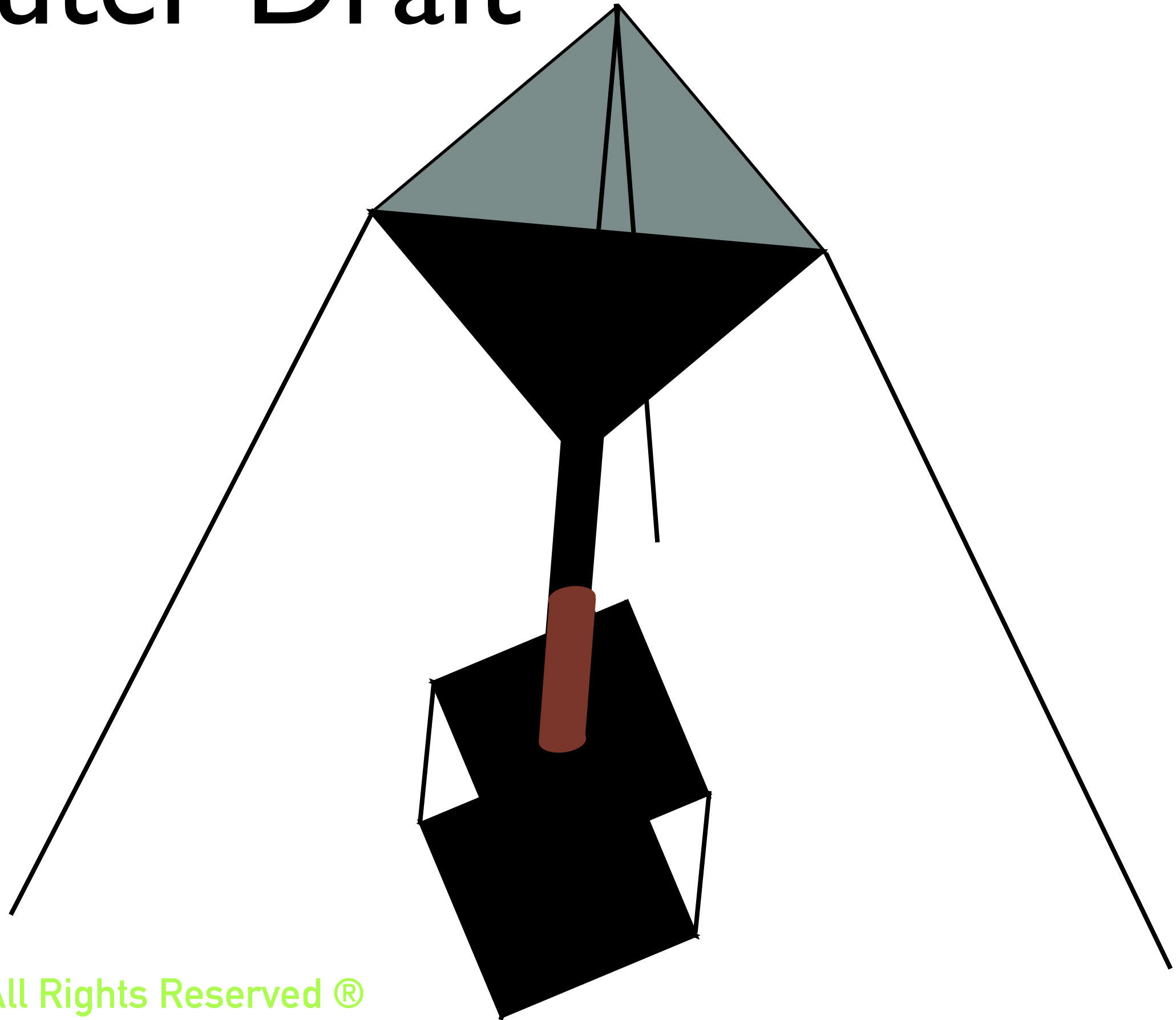




Idea Update

- Valve
- Tarps
- Ropes
- Filtration

Computer Draft



Materials

- Tarp
- Mesh
- Tube
- Ball valve
- Collapsible jug
- Rope
- Spigot
- Duct tape
- PVC pipe
- Silicone glue
- O-ring
- Tarp clips
- Hose clamp
- Activated charcoal
- Filter netting
- PVC fittings

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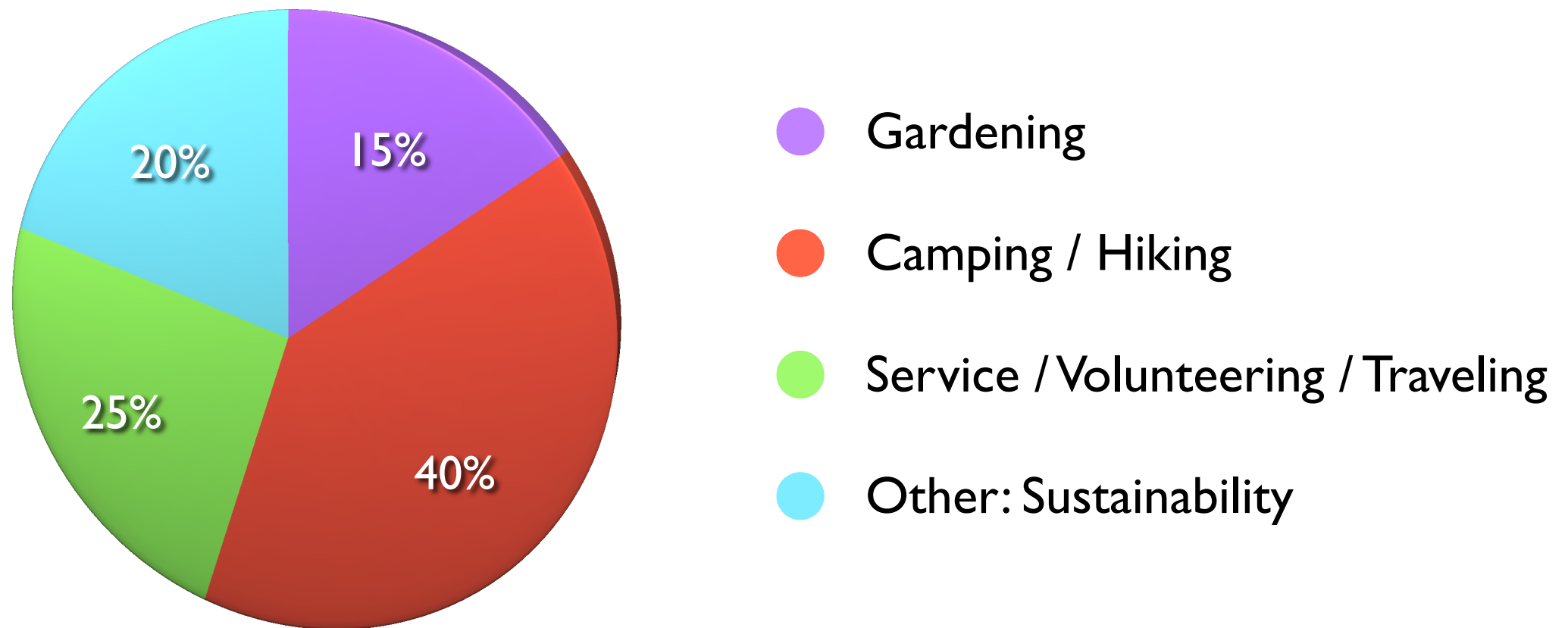
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Final Unit

- 9lbs
- Rope sling
- Water proof bag
- \$58.00 USD Material
- \$25.00 USD per Unit

Consumer Retail Market



Key Places of Implementation

- India
- China
- Columbia
- Costa Rica
- Dominican Republic

Southeast Asia
Latin America

Advantages

- Lightweight
- Community based
- Nomadic oriented
- Various styles of usage

Solutions

- Tie off to trees
- Great on palm trees
- Works without level ground
- Stores up to 8.5 gallons of water
- Half of the people on Earth need water
- 300 Million people in China alone

Demonstration

Back of the room

Acknowledgments

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Ms. A. Buhl

Retail Stores

- **REI**
- **LOWE'S**
- **CABELAS**
- **WALMART**
- **STANLEY HARDWARE - Philadelphia**