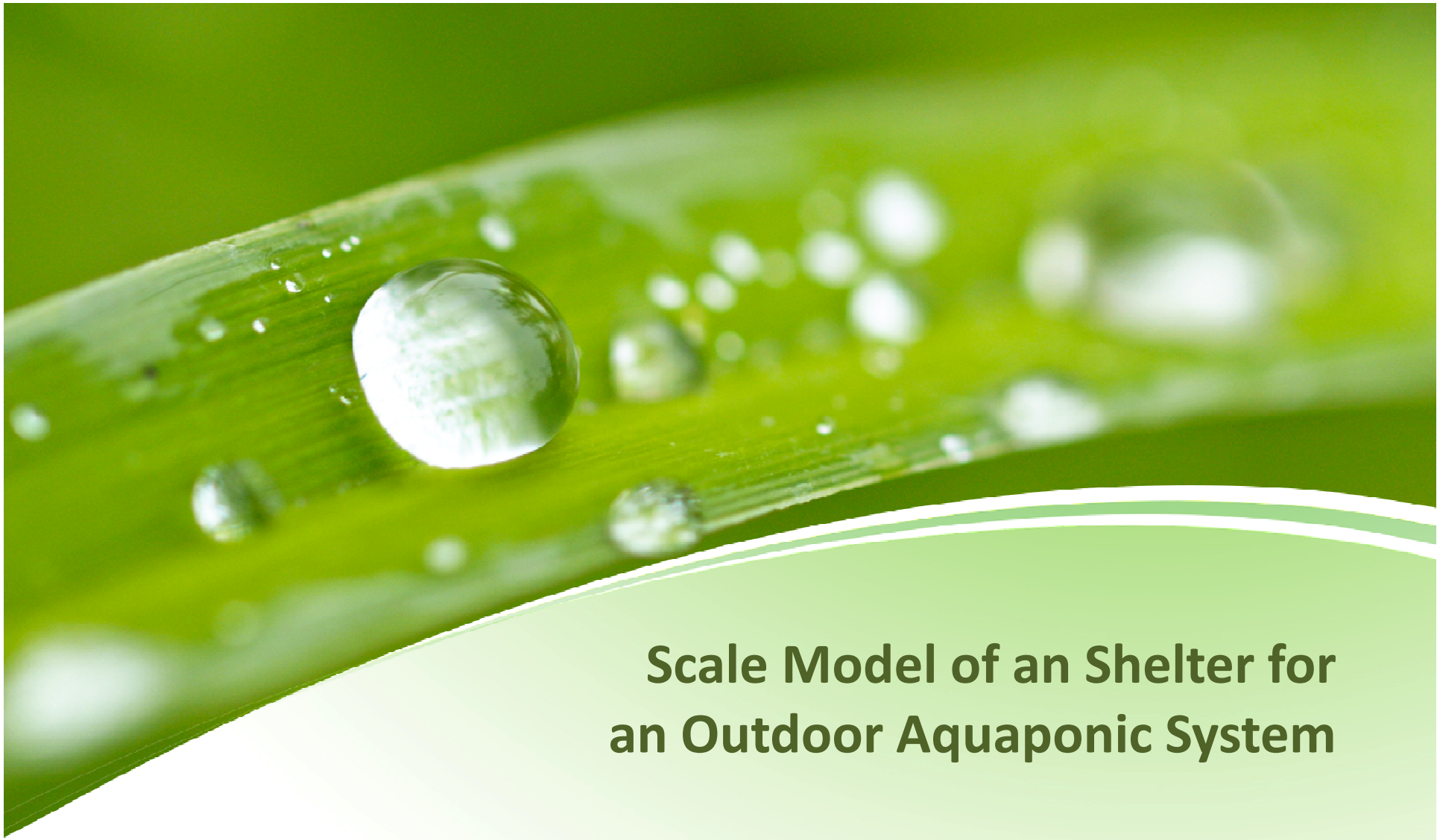


Scale Model of an Shelter for an Outdoor Aquaponic System

Adriana Jurado, Mateusz Bartniak, Pawel Jankowski, Reelika Martoja, Roland Esenszki, Severin Bernreuther

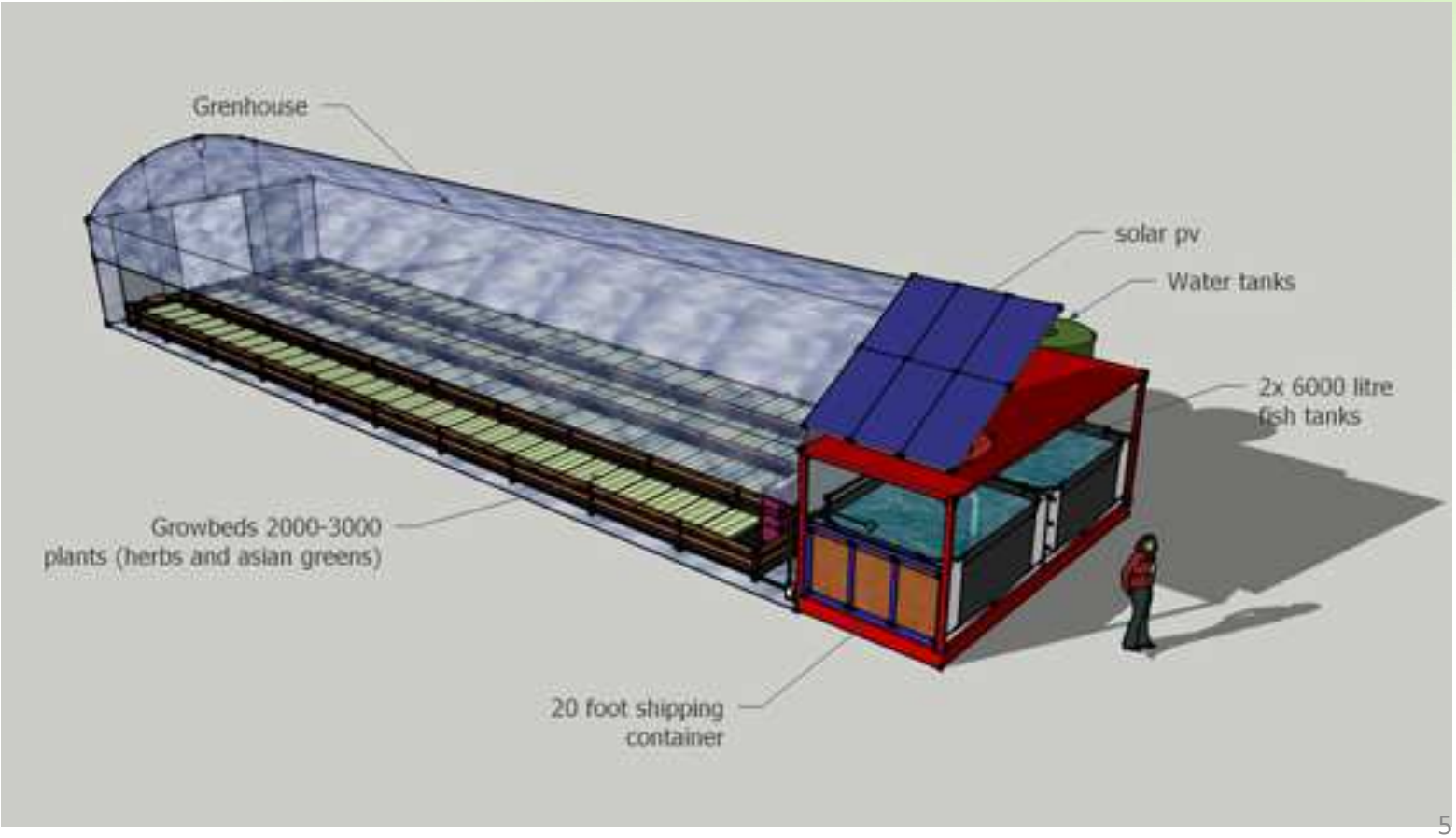
Introduction: Content problem

- Build a house for an aquaponic system
- Greenhouse that looks good in city
- Protect the aquaponic system from unsuitable weather

State of the art I

State of the art II

State of the art III



Marketing I

- Market Analysis
  - Marketsize and Trends
  - Steep – Analysis
  - Segmentation
  - Positioning Strategy

SWOT - Analysis

Strengths	Weaknesses
•Dynamic team •Focus on design / smart functions •Great Publicity / marketing value •Environmentally friendly	•Limited budget •young / inexperienced team •CWP? •High investments required •Why is there no real competitors
Opportunities	Threats
•Aquaponicsmarket is growing •Growing awareness in the population •Market niche – growing food in urban areas + design	•New technology – Does it push through? •Exisiting & Future regulations •Too expenisve for customers? •Competition in Greenhouse and Aquaculture Industries

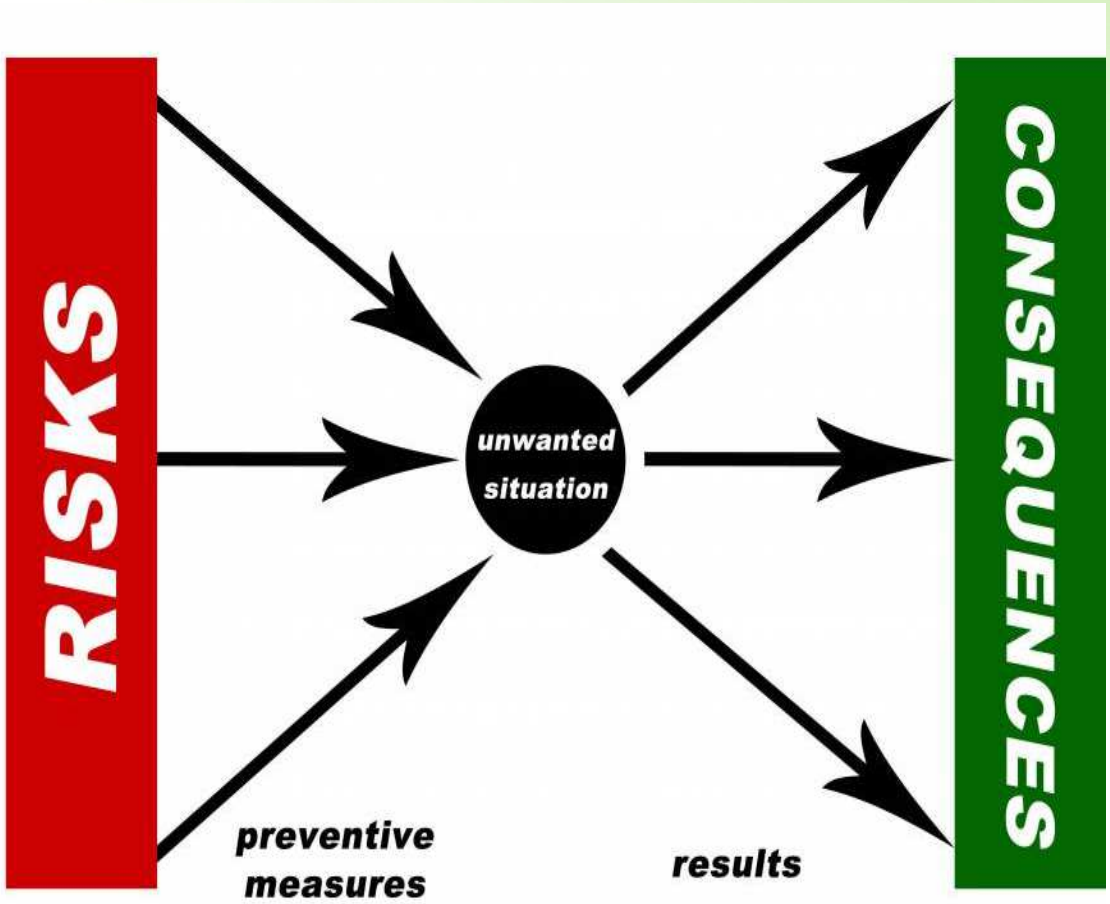
Marketing II

oConclusion

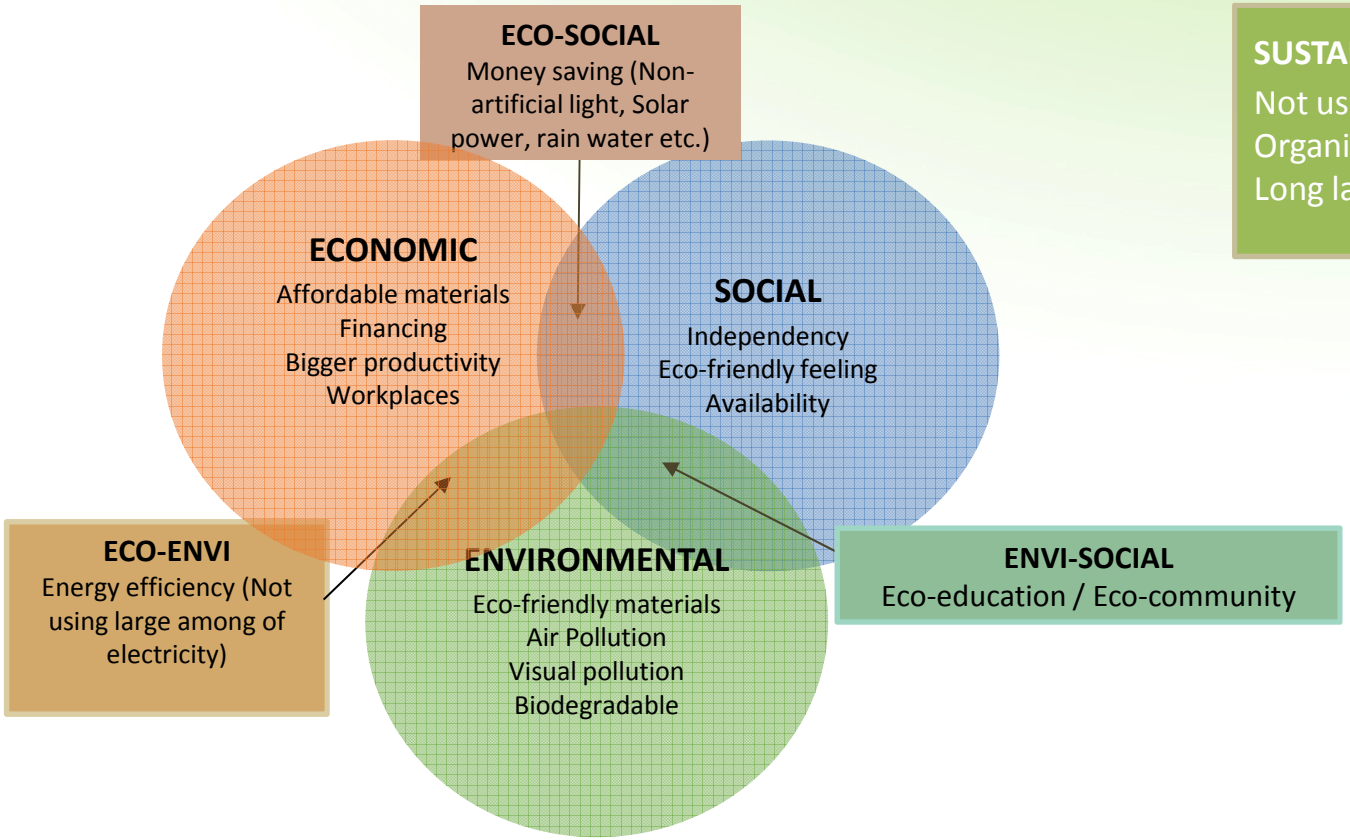
- Offer a Design Product at a reasonable Price

Project Management

Risk Management



Eco-eficiency Measures for Sustainability



Sustainability

- Energy efficiency
- Eco-community
- Recyclable materials
- Long lasting materials
- Year-round effective production

Ethics I

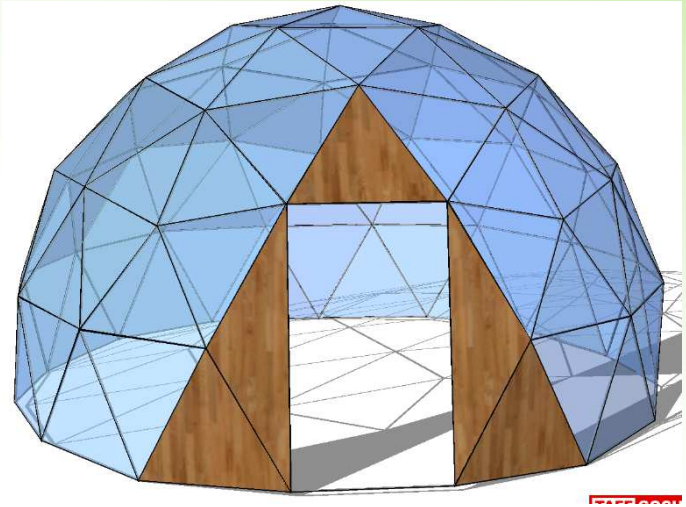
- Introduction
  - Shelter (harvest for humans)

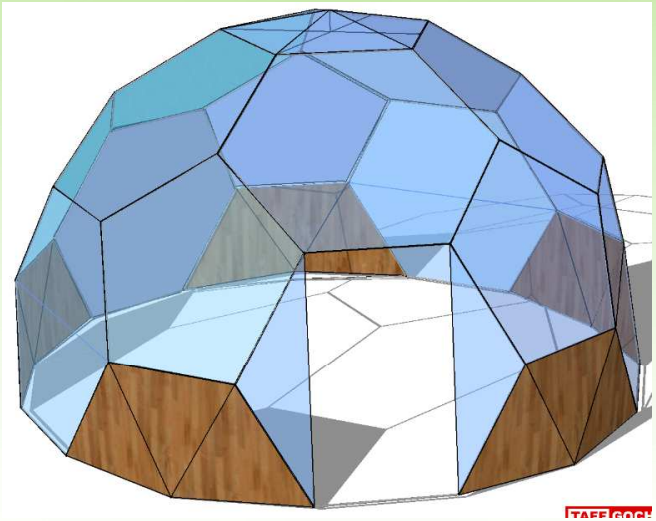
- Engineering
  - Safety
  - Perform services only in their areas of competence

Ethics II

- Sales and Marketing
  - Solid image
  - Truthfully without tricking
- Environmental
  - Materials
  - For growing
- Academic

Design evolution





Design

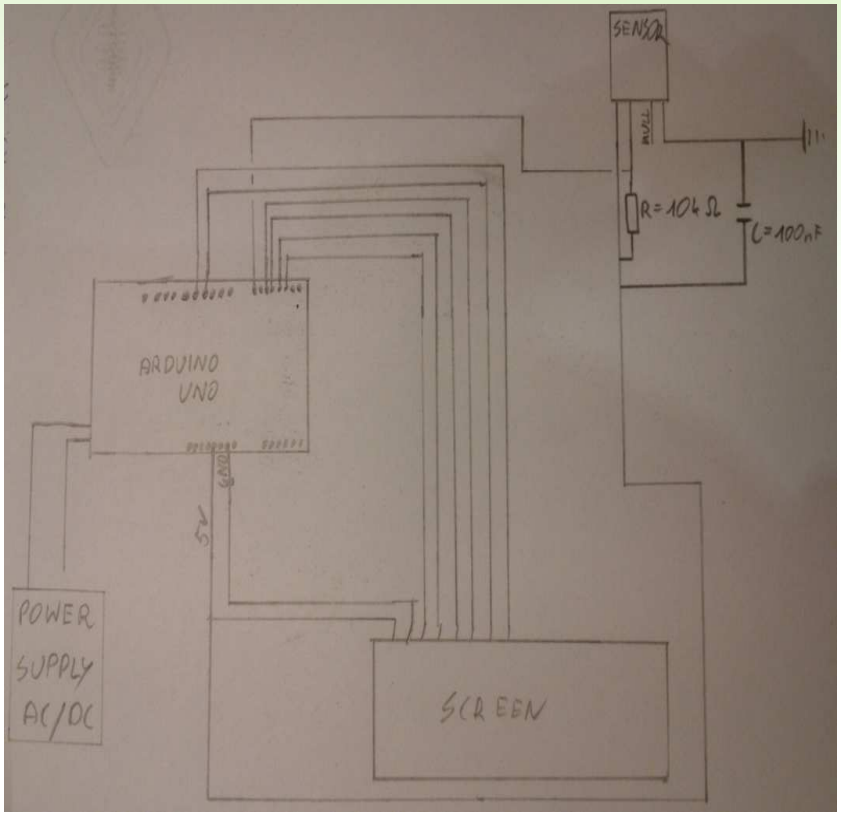
Construction

- Pine wood
- Multi wall polycarbonate
- Plywood

Design

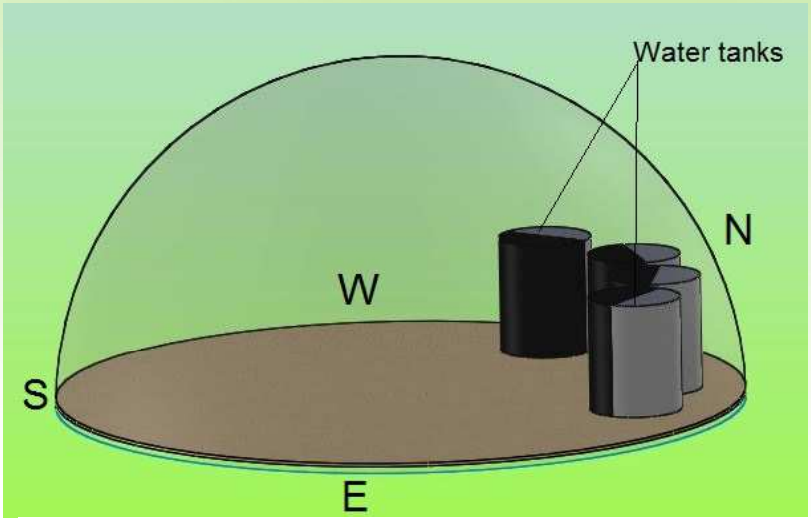
Electronics

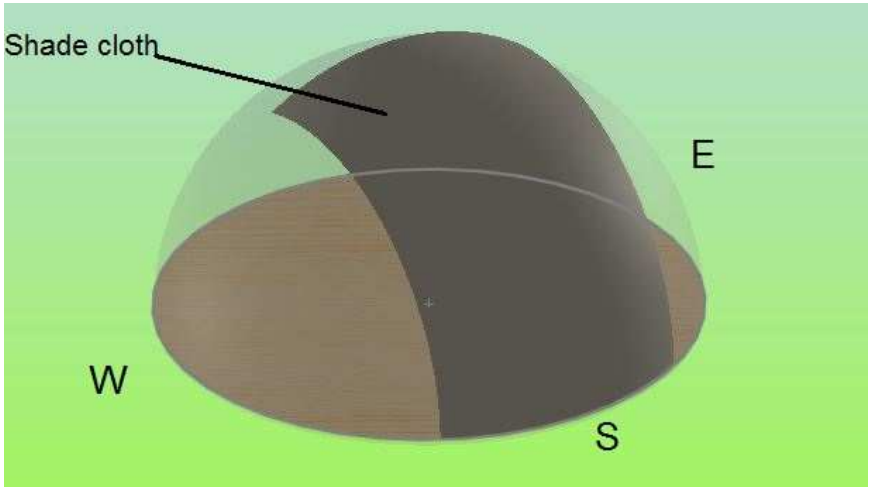
- Arduino UNO board
- Power supply
- Temperature&Humidity sensor
- LCD display

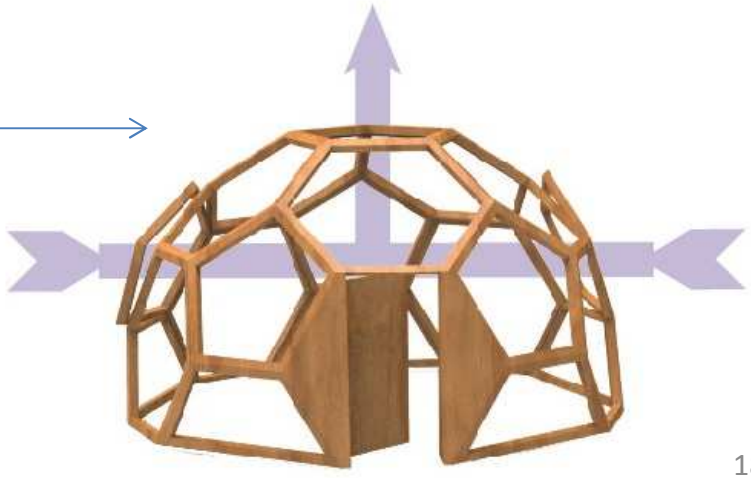


Functionalities

- oHeating system
- oVentilation system
- o Sun protection







Future work

- Strength calculations
- The mechanic system of the windows
- Define the marketing mix, the positioning and strategy
- Do the layouts of the pieces and assembly
- Improve the report
- Improve the final design and the simulation
- Build the scale model
- Test the scale model

Thank you for listening!

Any questions?