isep Instituto Superior de Engenharia do Porto

# SHELTER FOR AN AQUAPONICS SYSTEM

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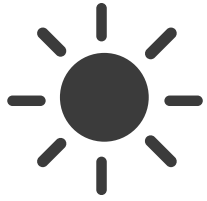
Marketing

Project
Managment



Sustainability
and ethics

Architecture

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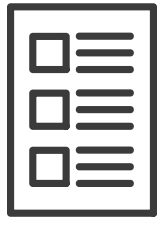
Electronics



Tests
and results

Future
development

Video

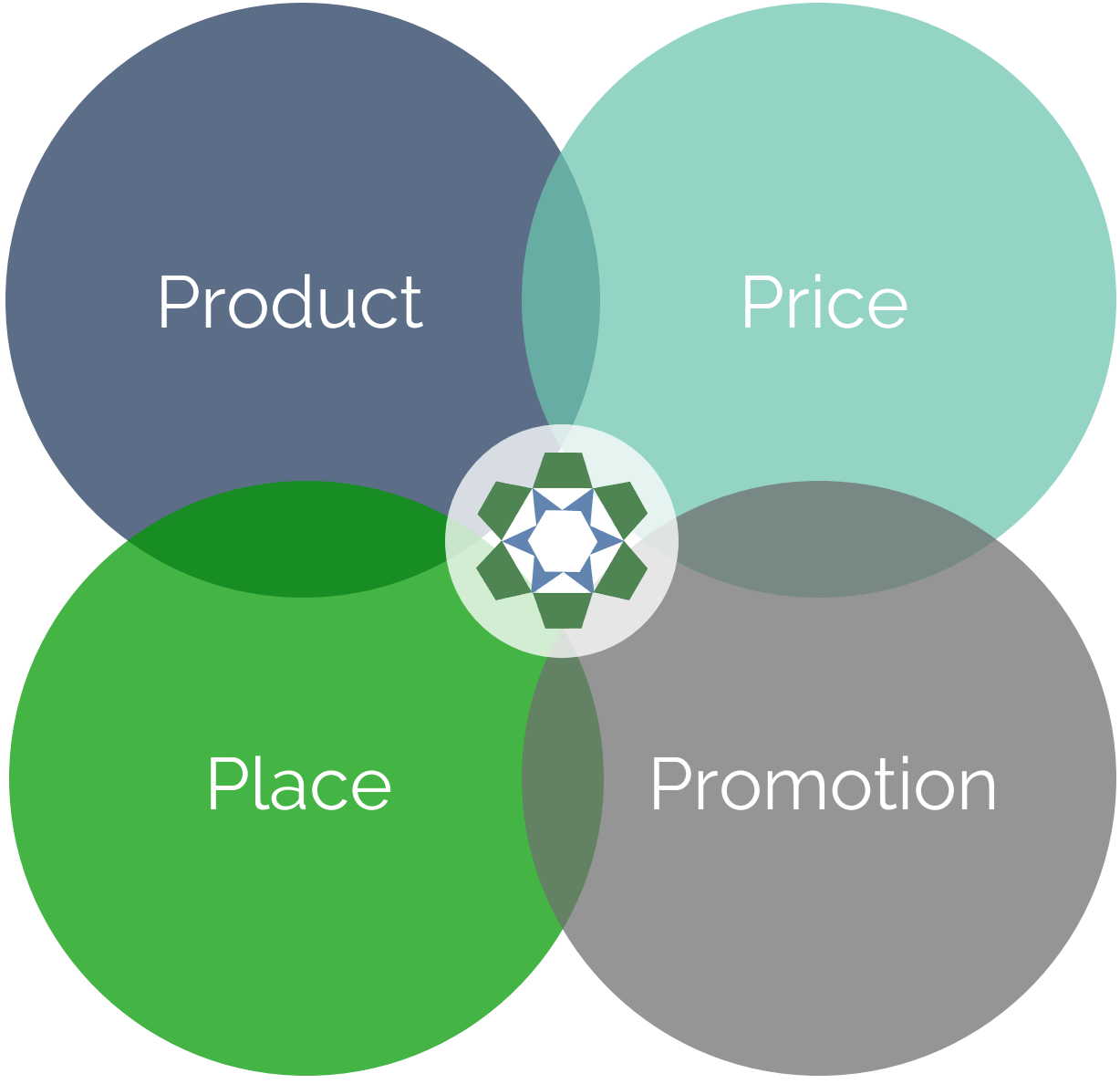
# INTRODUCTION

Build a shelter for an aquaponic system

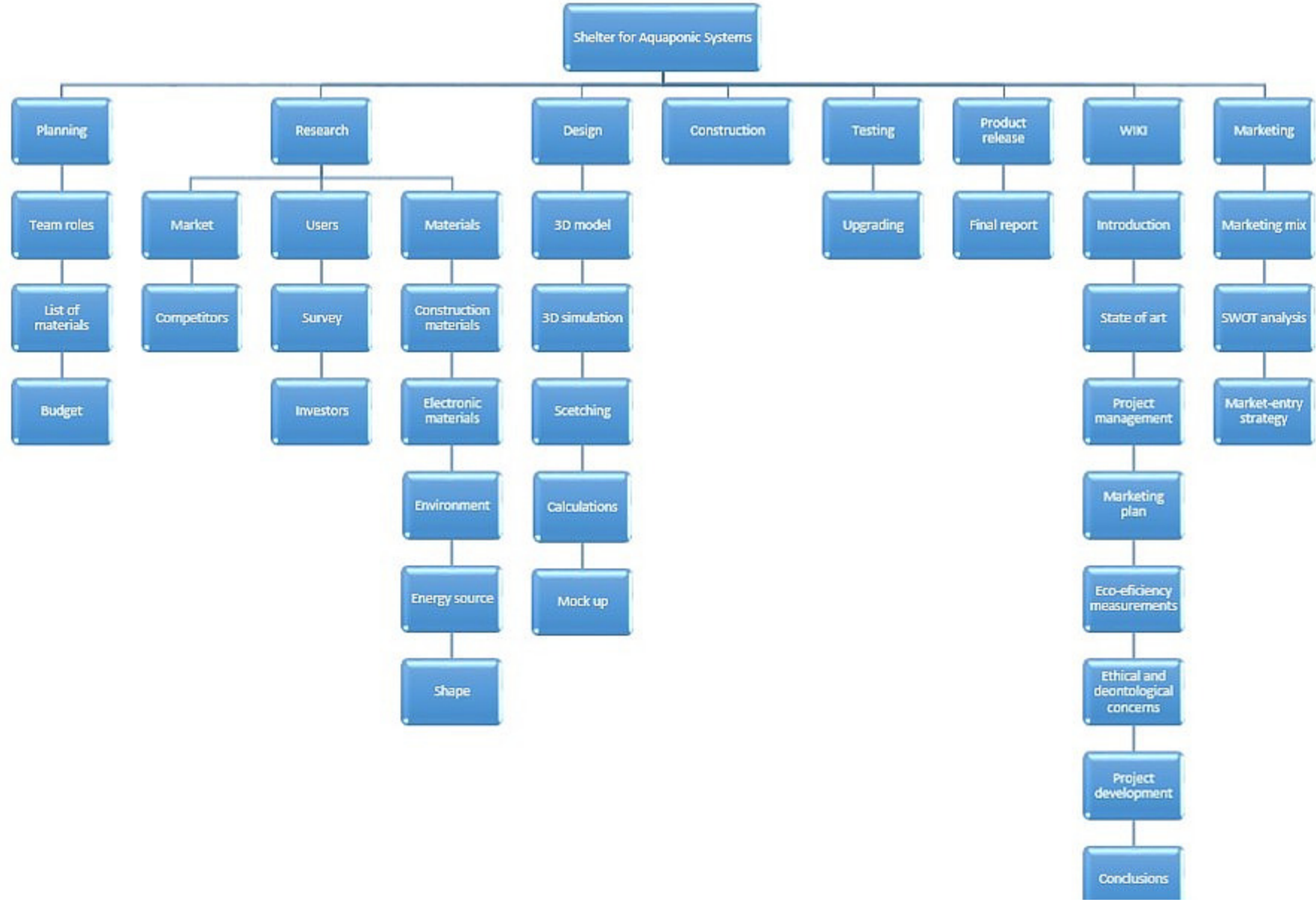
Greenhouse that looks good in a urban environment

Protect/support the aquaponic system

# MARKETING



# PROJECT MANAGMENT



# PROJECT MANAGMENT

| | |
|---|---|
| Arduino Uno | **22,90€** |
| DHT22 sensor | **9,90€** |
| LCD keypad shield | **14,50€** |
| Power supply | **7,50€** |
| Wires | **4,20€** |
| PMMA | **0,00€** |
| Double side tape | **23,16€** |
| Allplast glue | **8,74€** |
| Expanded PVC | **0,00€** |
| **TOTAL** | **90,90€** |
| Budget | 150€ |
| **Rest** | **59,1€** |

*Cost of people were neglected because we are rewarded with grades, not money.

During all duration of the project we did not exceed non of deadlines

Expanded PVC instead of wood

PMMA instead of PC

Bigger size

# SUSTAINABILITY

**Economic**

Affordable materials
Money saving

**Social**

Independency
Availability

**Enviromental**

Eco-friendly materials
Air&water pollution
Energy efficience
Not using chemicals

# ETHICS

**Safety and health**

**Sales and Marketing**

**Enviromental**

# ARCHITECTURE

Pinewood

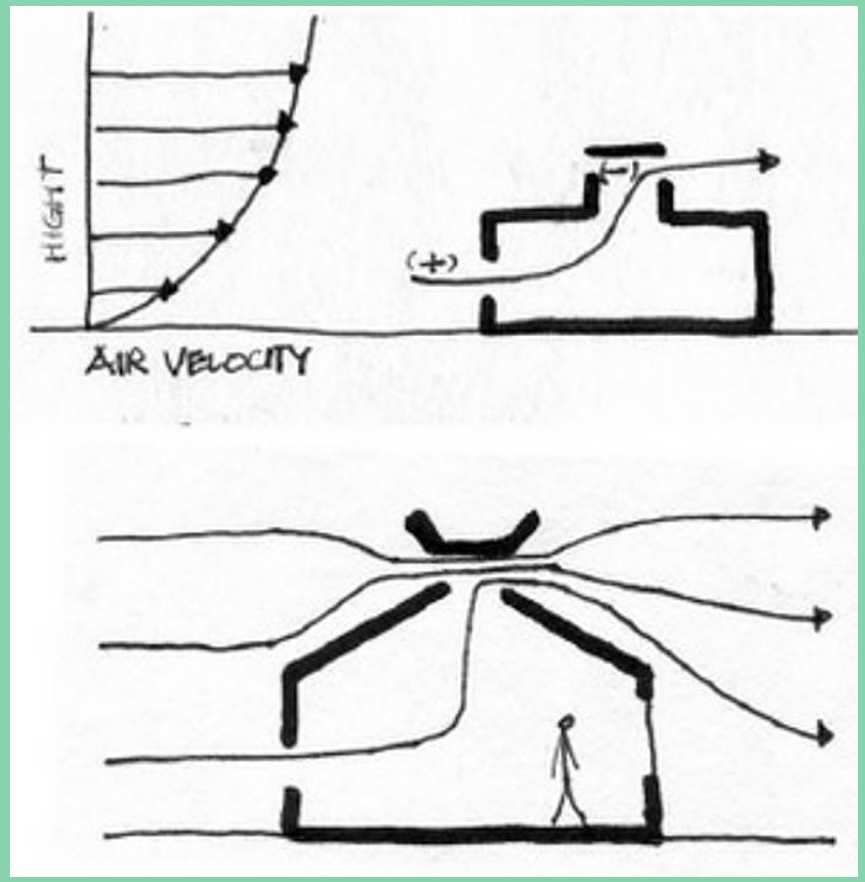
PC

# ELECTRONICS

## Temperature and humidity

Arduino Uno
LCD keypad shield
DHT22 sensor


## Ventilation



# TEST AND RESULTS

1

TEMPERATURE AND HUMIDITY

2

LIGHT

3

WINDOW I

4

WINDOW II

# FUTURE DEVELOPMENT

**Make it more user-friendly**

Customize the size

Ability to disassemble

Customize the structure material

Thermal mass heating system

Sun protection system

Fully-automated windows opening system

# CONCLUSIONS

Eco-lifestyle contribution

Knowledge of organic food products

Cooperation skills

Low-cost product

Engineering experience

# VIDEO


THANKS FOR YOUR ATTENTION
DO YOU HAVE ANY QUESTIONS?