Project Proposal

Assignment 1

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Department of **Design**

What is a Smart Indoor Garden?

- A smart garden is pretty much what it sounds like. It is an indoor unit for growing a vegetable or a herb that is controlled by technology.
- These smart gardens can help the plants provide the nutrients, lighting and water as and when needed.
- It gives a hassle-free growing experience for people.

Who can use it?

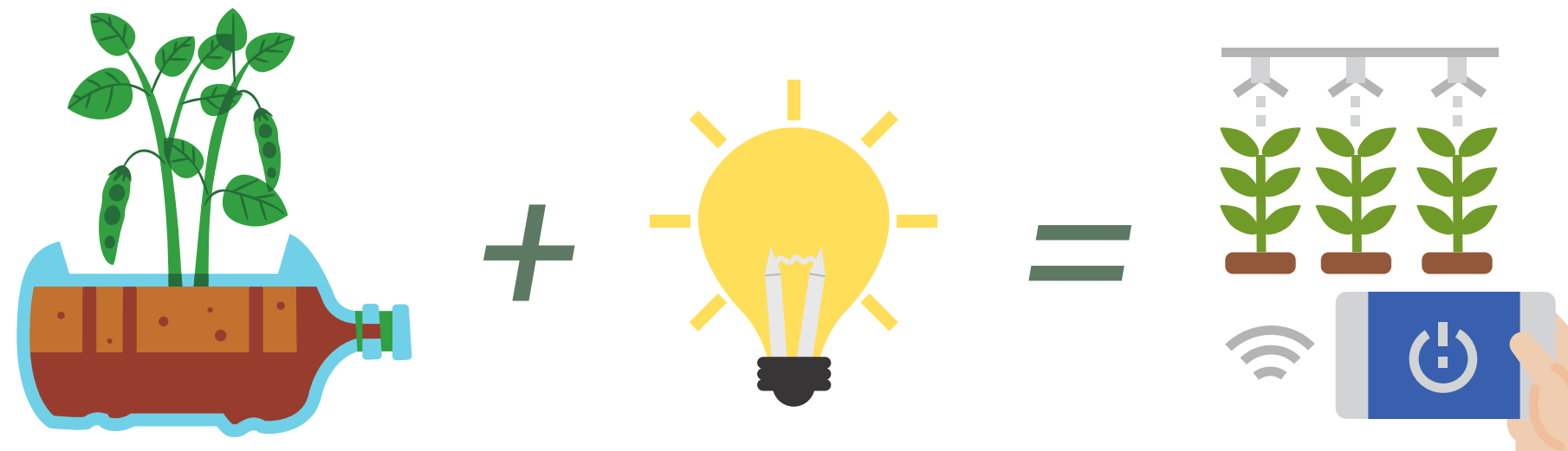The Smart Garden can be used by anyone who wants to grow herbs indoors within the comfort of their homes. They can be used by:

- Urban families who have less time to tend to their gardens.
- Students who have to manage academic work.
- Elders who enjoy easy access to healthy herbs.
- Those who want to reduce cost of buying herbs.

Concept

- Inspired from agriculture related product designs and the Personal Food computer.
- The concept is based on using a smart technology to monitor and control the climate, lighting and growth of small vegetables or herbs grown indoors.
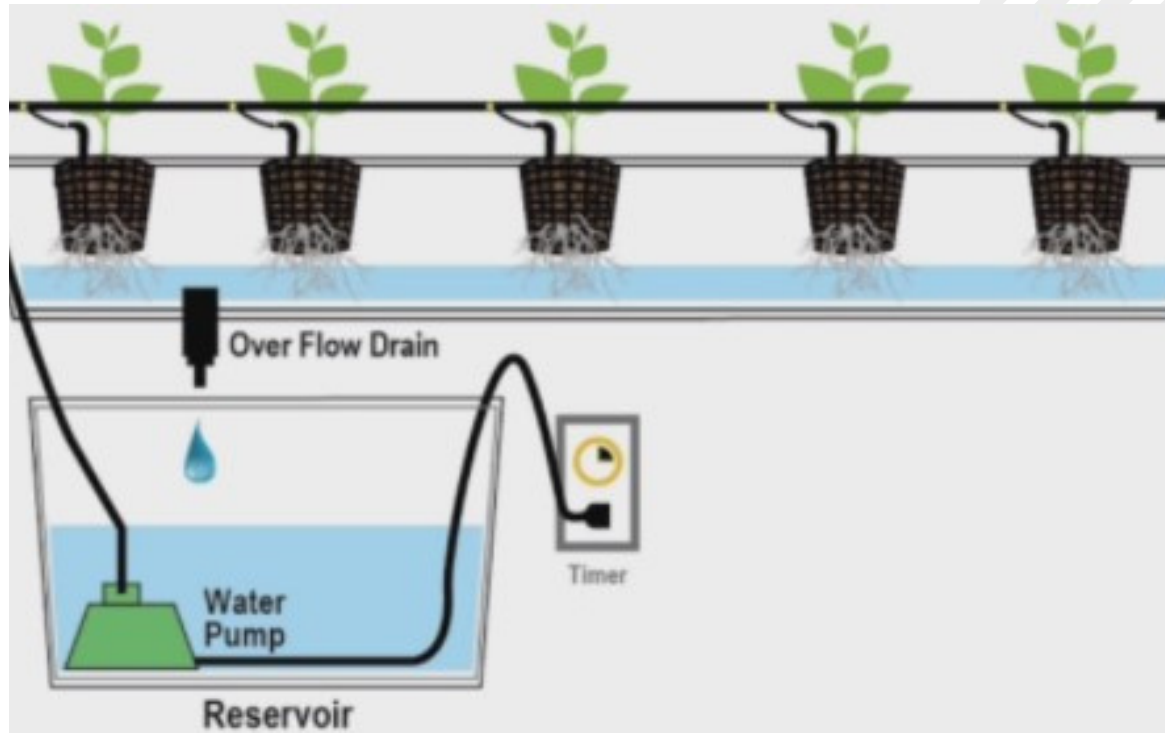
References:
https://www.media.mit.edu/projects/personal-food-computer/overview/
https://youtu.be/ANLKNoZ_b4c
https://youtu.be/R6cZvvS8lcE

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Inspirations

Initial Ideations
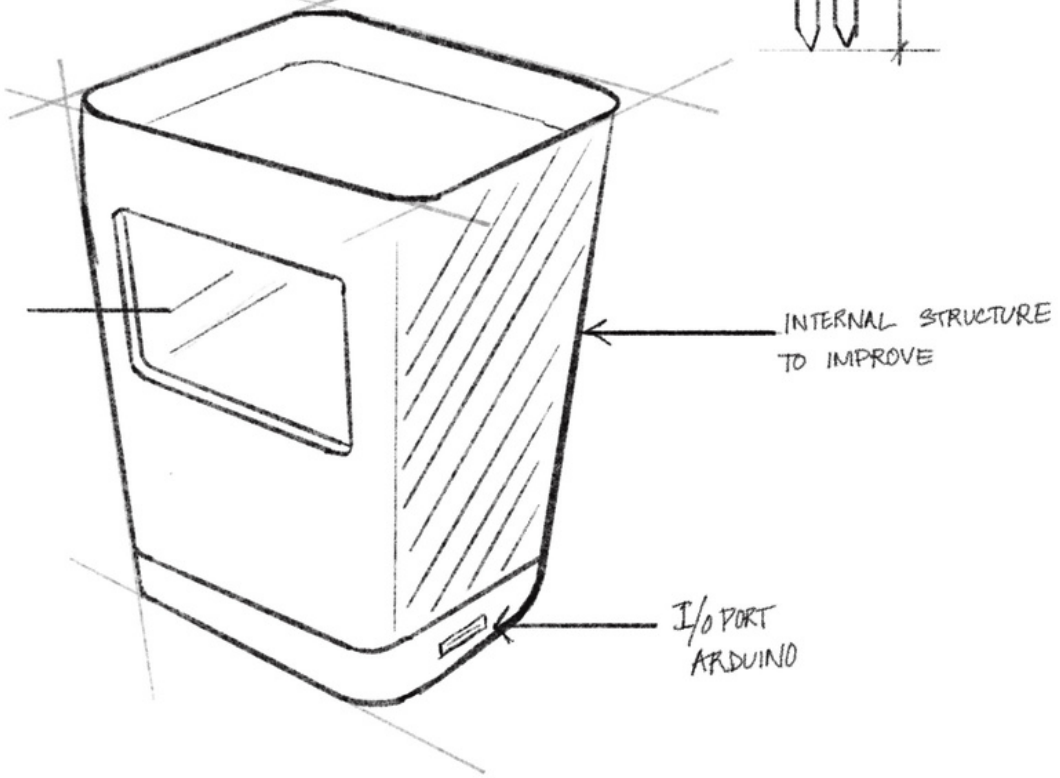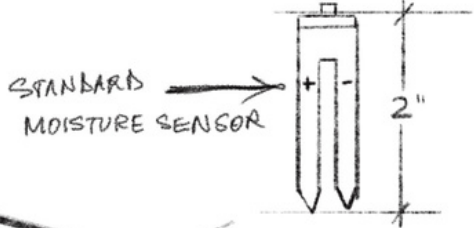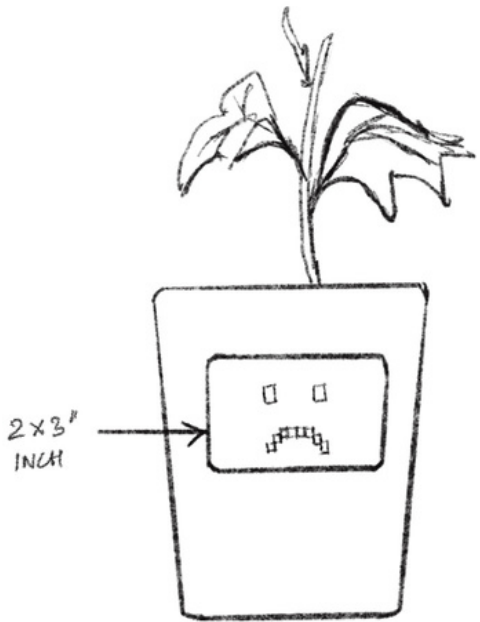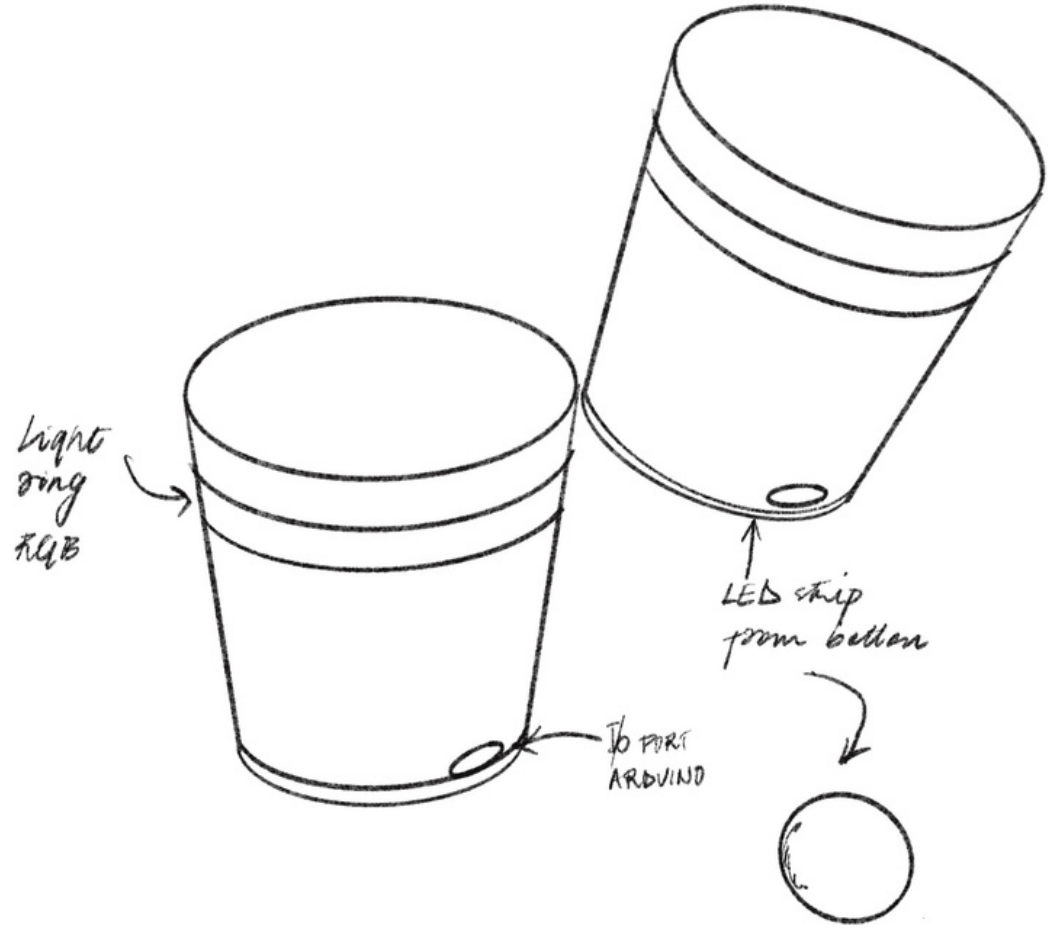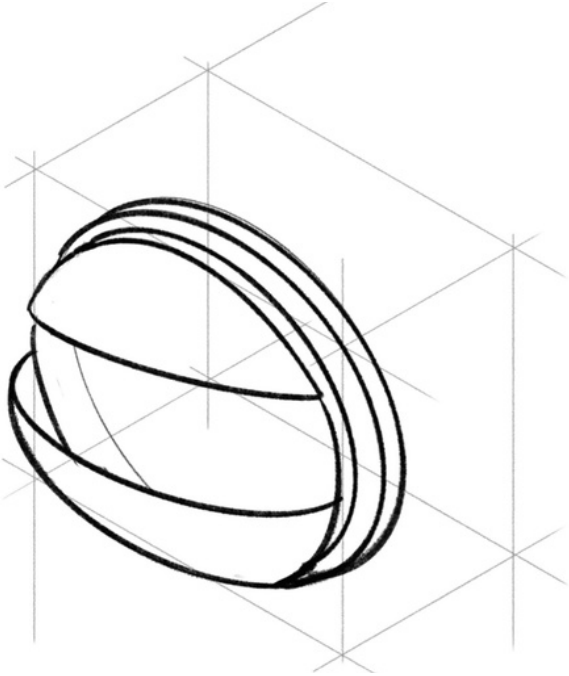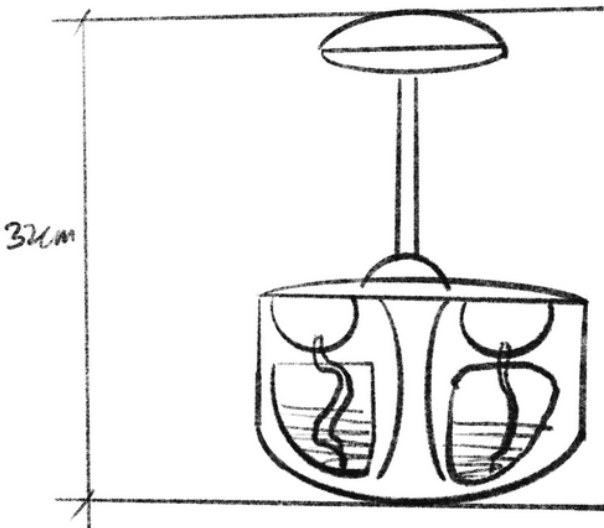
Final Ideation

Approach

Research and Need Analysis

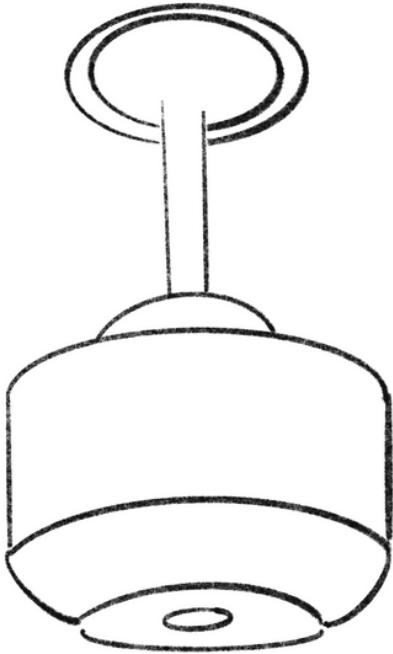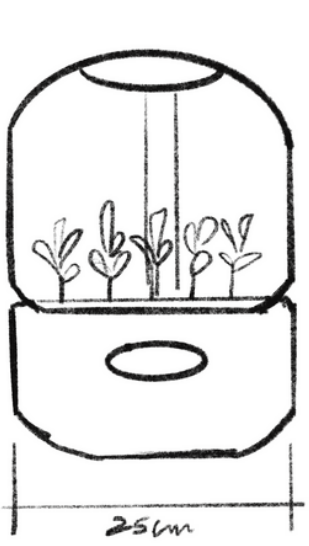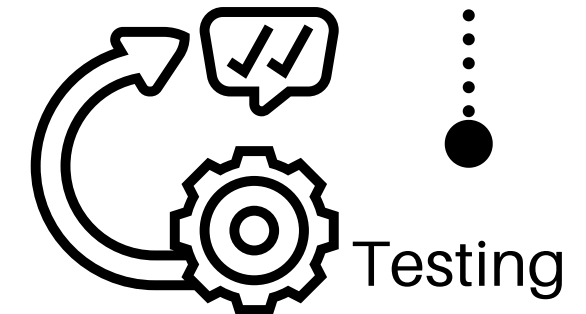Concept & Ideations

Electronics Testing

Design for Additive Manufacturing (3D model)

Material Selection and 3D Printing

Post-processing & Assembly
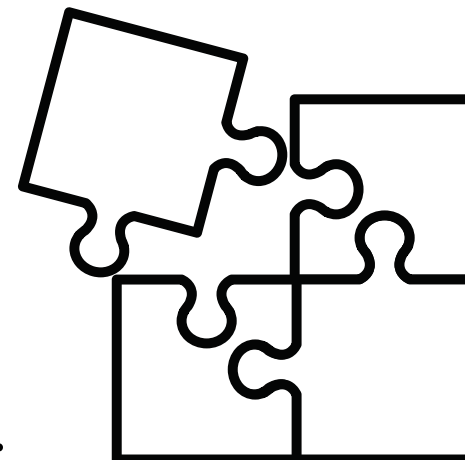
Testing
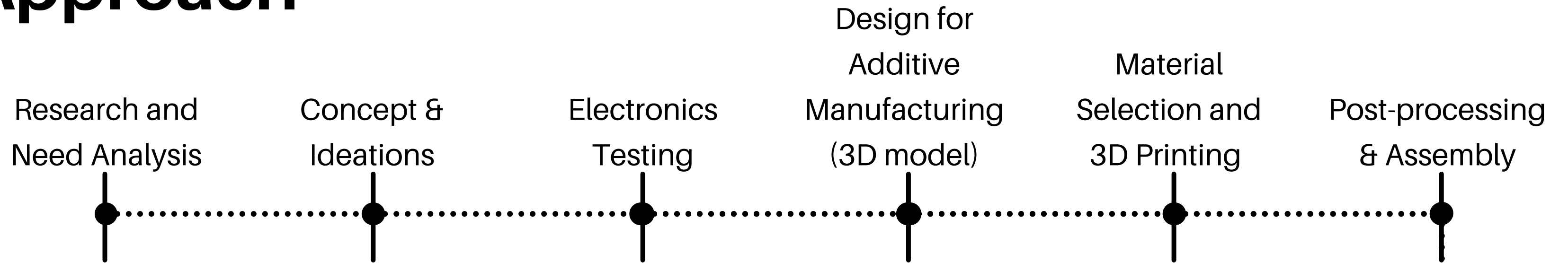
Challenges

- Effectiveness of the concept to be tested.
- Limitations in 3D printing
- Limitations in material selection
- Cost/affordability
- Project Timeline
- Management on work through online mode.
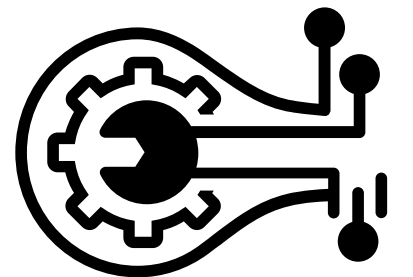
Component required

- Arduino
- Humidity and light sensor
- Water Storage Tank
- Rechargeable Battery
- LCD Display
- LED Light strips
- Switches
- Mini water pump
- Acrylic glass
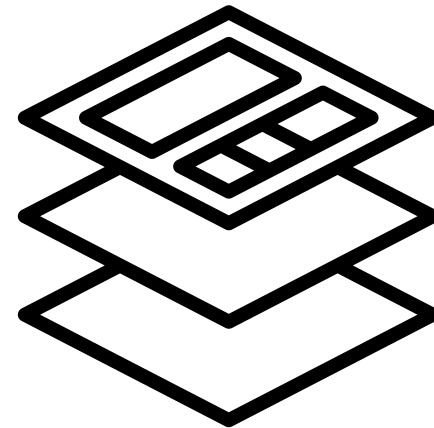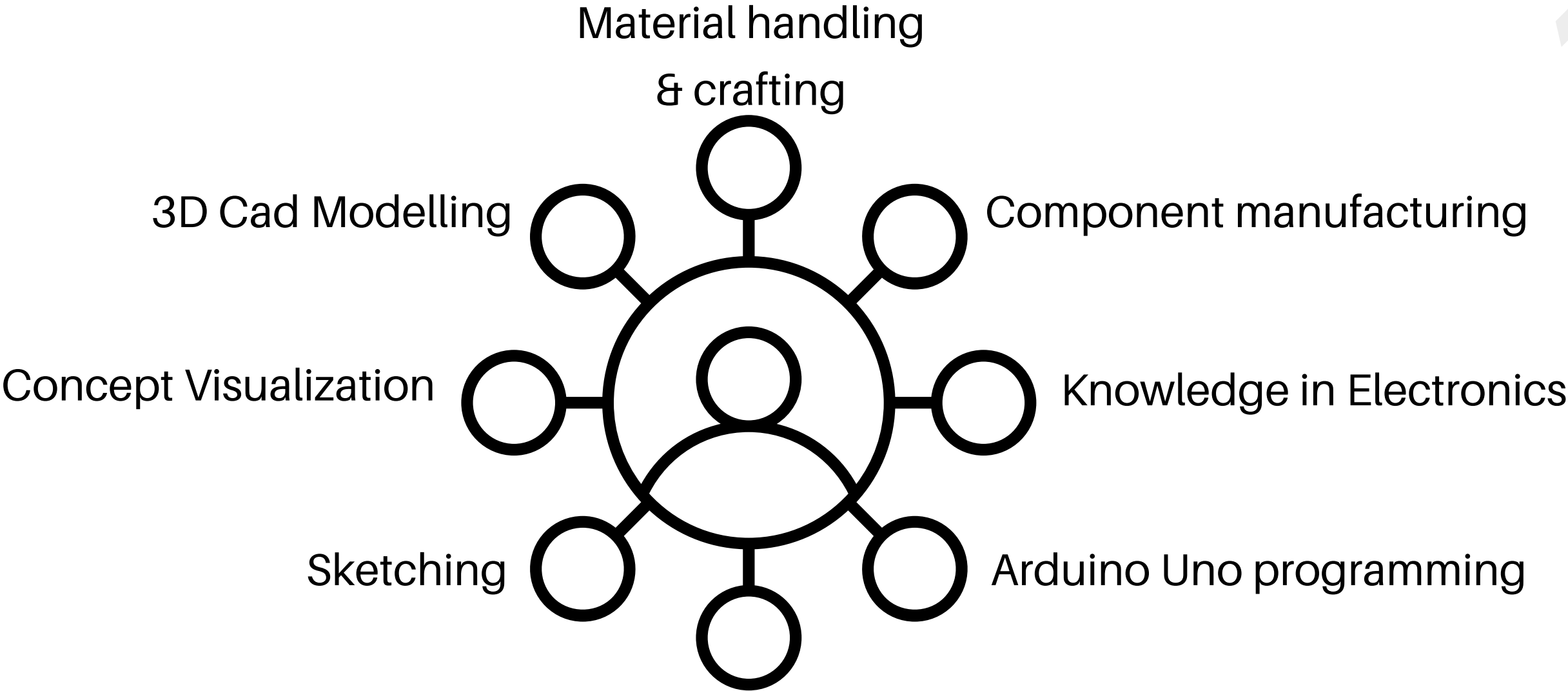
Skills required

- Sketching
- Arduino Uno programming
- 3D Cad Modelling
- Material handling and crafting
- Component manufacturing (3D Printing)
- Knowledge in Electronics

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Skills required

Material handling & crafting

3D Cad Modelling

Component manufacturing

Concept Visualization

Knowledge in Electronics

Sketching

Arduino Uno programming

Timeline

Project Proposal
Submission

WEEK 1

Ideation &
Component Selection

WEEK 3

CAD design &
3D Printing

WEEK 5

Final Model
Development

WEEK 7

WEEK 2

Research &
Need Analysis

WEEK 4

Electronic &
Functional Testing

WEEK 6

Assembly

WEEK 8

Final Project
Presentation

Thank you