## **GNG 1103 Project Deliverable B: Needs Identification**

#### Team A09

After the first meeting with our client, Growcer, our design team has identified several client needs. This brief will list those needs, summarize them in a concise problem statement, then provide user benchmarking and identify any requirements for more detailed information.

#### **Client Needs**

The following client needs have been identified, categorized as either a function the solution must "do" or a characteristic the solution must "be", and prioritized as follows:

### **Primary Needs**

These are the most important needs as they define the core of the client's problem. Meeting all these needs would be considered solving the problem.

- The solution must clean the rafts well (do).
- The solution must reduce labor spent on cleaning the rafts (do).
- The solution must be highly usable (be).
- The solution must be food safe (be).

# **Secondary Needs**

These are important needs that further specify the client's requirements. Meeting all these needs would be considered solving the problem very well.

- The solution should be non-destructive to the rafts (be).
- The solution should be compact (be).
- The solution should be durable (be).
- The solution should be maintainable (be).
- The solution should be cost effective (be).

### **Tertiary Needs**

These are latent needs implied by the client that are not critical. Meeting these needs would be considered an ideal solution.

- The solution could use as little water as possible (be).
- The solution could produce as few disposables as possible (be).
- The solution could be cleaner than the existing cleaning process (be).

#### **Problem Statement**

Having identified the previously mentioned needs, our design team has created the following problem statement to summarize the client's needs and guide our design process:

"Growcer requires a highly usable device that will allow their users to spend less labour cleaning the rafts for their hydroponic farm systems without compromising food safety."

# **User Benchmarking**

Our team has identified the following existing solutions to similar problems and summarized user perceptions of those products.

Product	Users Like	Users Dislike
Chemical Algae Treatment	Efficient.	Inefficient
Ex. Polyquats Algaecide	Low labour. Usable (required amounts given for many	(requires more dosage than other products).
(On Amazon)	situations).	Expensive.
Manual Brush for Pools	Durable. Functional (curved to	
Ex. Lalapool Swimming Pool Wall & Tile Brush	easily reach corners). Non-destructive (soft	Inefficient (too
(On Amazon)	edge to avoid tearing pool liner). Affordable.	small).
Industrial Dishwashers		
Ex. Noble Warewashing I-E Single Rack Low Temperature Door-Type Dish Machine.	Usable (simple). Efficient. Easy to clean.	Limited lifespan (replacement every 3-10 years).
(On Webrestaurant Store)		,
Touchless Car Wash	Automatic (no labour).	
Ex. T-120 Trident Touch-Free Car Wash System.	Cleans quickly (relative to touch system). Non-destructive (does	Chemicals can damage the coating of the car.
((From manufacturer))	not scratch car, unlike touch system).	

# **Further Information Required**

Our team will require the following further information from the client:

- Confirmation that only one type of raft is used regardless of the plant being grown.
- Is it possible to re-route the waste heat from the unit for use in heating a device?