Project Deliverable B: Need Identification and Problem Statement

Client Needs:

- Light Weight => “with drones weight is everything”
- Accurate and constant communication / data exchange with flight operator
- Movement sensor (Make sure food isn’t violently shaken), don’t want spilt food/drinks
- Feedback 6 degrees of freedom, visual feedback to operator
- Temperature sensor : Relative humidity (50-55% humidity), temperature(room temperature) of the food container (food is still good for customer), needs to close to the hook
- Visual feedback/info that operator can easily interpret.
- Alert operator that drone has fallen + height vs anticipated height of drone, status of drone, alert nearby individuals to not touch and approach drone, operator will recover it
- Alert operator of stolen drone, deviated path, track it, don’t lose equipment
- Main thing : constant, reliable and accurate data being transmitted
- Ideally one module that can be plugged into the drone, show that some info (accurate data) is being relayed to some outbound
- Reliability
- “Any type of serial communication is the way to go”
- Consistent data - “If i see i consistent data im going to be very happy”
- “That information between the drone and the operator needs to be conveyed at all times. Constant communication. So whatever information information you can take from the drone and give it to the operator and vise versa is very essential”

Functional:

- Reliability of Data Exchange
- Lifespan/reliability of add-on system
- Consistent data of add-on system

Metric:

- Weight of add-on system (grams)
- Cost of add-on system (CAD)
- Dimensions of add-on system (cm)

Non-Functional:

- Not Specified (TBD)

Priority	Customer Statement	Interpreted Need
1	“If I see consistent data I’m going to be very happy”	Consistency of data collection
2	“That information between the drone and the operator needs to be conveyed at all times. Constant communication. So whatever information you can take from the drone and give it to the operator and vise versa is very essential”	Constant communication/data exchange between all parties
3	Visual feedback/info that operator can easily interpret.	Readable and understandable data
4	“As long as it is compact...So remember, drone weight is everything so make sure you are thinking about compactness”	Dimension and compactibility
5	“With drones, weight is everything”	Light weight

Problem Statement: Jamz needs an add-on system for a food delivery drone that provides consistent data and constant communication to the flight operator.