TOUCH IOT WITH SAP LEONARDO PROTOTYPE CHALLENGE

Story

Give a man a fish and he’ll eat for a day.. But, teach a man to fish smartly and we’ll all eat the best quality fish for life

Gatiep is the owner of a small fishing boat in the fishing town of Hout Bay, Cape Town. He comes from a fishing community where he is actively involved in in ensuring that there are sustainable jobs. Gatiep takes pride to the fact that his fish is the best quality however this has been challenging in the past to prove to his customers. He recently met an old friend of his who is now a system architect. His friend told him about a smart fishing system that could solve this major pain point but also introduce so much more value for him. His friend also relayed to him that Fresh salt water fish is fast becoming a better and preferred supply of natural protein than the poultry industry. Some key aspects around this shift include big benefits in cost, environmental, natural value and nutritional value where in our modern day lifestyle we are demanding best quality protein that is in its most natural form without the use of farming techniques that alter the growth of livestock. However, whilst the older generation may have their techniques of determining the quality of the fish, it is by no means reliable.

The Smart Cooler Bag system works as follows and that there are potential subsidies from both business and government organisations who can assist in equipping the fishing boats with this technology.

1. Provide a smart slot for monitoring the individual fisherman who adds catch
2. Recording the weight and time at the time of the catch. Fisherman process is that they kill the fish before insert into the slot. This status quo remains the same. Identification Management of fish is also available and the camera recognition software could also
Once fish is weight, and tagged, fish is pushed into a smart cooler bag

Gatip is very excited about this and his friend suggests that they involve other fisherman, fish mongers and customers to do a design thinking workshop to quickly produce a prototype for evaluation. Please see below the summary of the workshop:

1. Top view of fishing boat showing Smart Slots for dropping catch into the smart tag system
2. Smart tag system movable base which identifies, weighs and tags fish in seconds
3. The Smart tagging system pins a 2D barcode on each fish allowing up to 2000 characters on attribute data to be stored on each fish. At this point the system stores the type of fish, the weight, the fisherman, the time and the location of where the fish was caught.
4. The system releases the catch into a smart movable cooler bag, now collectively forming a movable cold freeze. The system add the smart cooler information to the individual fish information
5. The system also monitors the weight and temperature for each smart cooler. Each cooler can be powered by both battery and connected power and the system monitors fluctuations in temperature.
6. In time, where there is movement over land over 20m, the system will also monitor this
7. The system also adds information about quality sampling of the shoal of fish caught with a predetermined time period
8. The 2D barcode on each individual fish can be used by a smart fine app to provide information needed by the customer to ensure the quality of the fish
Personas

Gatiep

The Fisherman

“I can now expose the new generation of fisherman to the 4th Industrial revolution and ensure that the family trade is moving with the times ensuring the survival of the trade by focusing on quality of the fish we catch”

About

• 43, married, 3 kids, 2 girls and 1 boy.
• Fishing is a family trade going back at least 7 generations.
• Loves to fish and enjoys his job and philosophical about it.
• Wants his kids and the fishing community to embrace the 4th Industrial revolution and including practical learning programmes to ensure that in future the community is not jobless.
• Has aspirations for providing the best quality fish to his customers and proving that they are receiving the freshest fish.

Responsibilities

• Owner of the fishing boat and employs other fishermen.

Main Goals

• Eager to adopt technology but should not add to the cost of the product. Instead if this is done right, should be seeing a significant cost saving as

Design thinking: Storyboard Brainstorming

Quotes and defining words:
1. “How fresh is this fish?”
2. “I want fish caught in the ocean, not from farms”
3. “How was this fish handled after caught?”
4. “I want to trace back to quality check on sample fish”
5. “I will pay more based on the freshness of this fish”
6. How do I embed Catch weight management where the weight of a container is sold based on average, but needs to be adjusted bas on average?
7. I pay cold storage facilities based on the temperature of the fish
8. Fishing quota and subsidies for subsistence fishermen
9. Convert surplus supply to preserved fish
10. Tell me the story of this ‘fresh’ fish I bought off the back of a truck/fish stall
11. “IOT does not add a significant cost to the product I now want. Instead if this is done right, I should be seeing a significant cost saving as quality assurance and regularity processes are now enhanced”

Thoughts and beliefs:
1. Fish is considered brain food and much more healthier than other proteins
2. Fresh fish is better supply of protein
   1. Cost: Cheaper than Chicken
   2. Environmental impact: Line fishing ensures jobs and ensures quota is maintained
   3. Natural Value: should be able to trace free range and organic
   4. Nutritional Value: Higher values of omega fatty whilst still maintain a good dose of protein
3. Up the quality of supply by providing the consumer with facts about the catch
4. Utilising 4th Industrial Revolution techniques to get fisherman to use tech to empower their current manual techniques
   1. Use Project loon for communication: fish finding techniques get real time alerts
   2. Retrain fishing family new generation to use the technology and support on the ground

Actions and Behaviours
1. No time wasted when fishing: A catch-weight management system is introduced on the fishing boat
2. Alert when quota reach
3. Tagging introduced on boat
4. I want to see key information at a glance and not read long story about the fish I am interested in buying
5. I want to see the whole story, including the fisherman’s name and where this was caught, with profile information to tell the story and rate the person’s involved in getting the fish to me

Feeling and Emotions
1. As the fisherman
   1. Happy as I am able to get paid better by introducing simple tech and enhance the experience of my customer
   2. Excited because I can now expose the new generation of fisherman to the 4th Industrial revolution and ensure that the family trade is moving with the times.
2. As the fishmonger
   1. Confident about my supply and can sell based on freshness
3. As the fish cook
   1. Happy cos as the restaurant owner good traceable fresh fish puts a smile to me (my guests/customers)
- Determine where to fish and track best fishing spots
- Monitor fishing quotas and ensure that his boat meets regulations to avoid big fines from authorities
- Hands on daily coordination of fishing activities on boat

**Needs**
- Regulations demands quota per fisherman is maintained.
- No time wasted- Hand line fishing is traditionally used to maximize time of catching- Technology needs to not be obstructive in the process of fishing
- Cost- The cost of technology should add enough value where by enhancing quality and regularity processes additional value is added by more customer demand and subsidies for saving the industry
- Quality- I want to serve my customers best

**Pain Points**
- How does he embed Catch weight management where the weight of a container of whole fish is sold based on average, but needs to be adjusted bas on average?
- How can he prove to his customers that his fish is fresh and off the best quality?
- What happens to fish sold by fish mongers who need to transport to markets or in mobile units?
- At what point does he make the call to convert surplus supply to preserved fish in order not to waste?
- Want to incentivize fisherman employed based on their catch for the day

**Point of View**

As a fisherman and responsible role player in the fishing industry I need to ensure that fishing industry regulations are maintained so that I prevent over fishing and maximise subsidies to promote the sustainability of the traditional line fishing component of the industry

As the system architect introducing new technology I need to not only ensure that I minimise disruption to the process of fishing but to taking into account the entire eco-system to maximise gain from technology utilised in ensuring more efficient processes, even if down the line

As the system architect I should add enough value that outweigh the cost of technology where by enhancing quality and regularity processes additional value is added by more customer demand and subsidies for saving the industry

As a fisherman and businessman I want to serve by customers best by providing the best quality fish thereby differentiating me from my competition and taking my business to a new level
## User Experience Journey

<table>
<thead>
<tr>
<th>Actions</th>
<th>First catch of the day</th>
<th>Handover Catch to Fishmonger</th>
<th>Transport Fish to Market</th>
<th>Sell fish at Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mindset</td>
<td>• This fishing spot must be recorded with date and time</td>
<td>• This fish is freshly caught so please get this to my customers</td>
<td>• Need to get this to the market as soon as possible</td>
<td>• What differentiates me from the fishmonger next to me</td>
</tr>
<tr>
<td></td>
<td>• The fish is biting now and I can’t loose time</td>
<td>• How do I help you sell the fruits of our labour</td>
<td>• My customers should know that this fish was freshly caught and where and when it was caught</td>
<td>• Can I prove to you how fresh is my fish?</td>
</tr>
<tr>
<td>Feeling</td>
<td>• Excited</td>
<td>• Concerned that catch is not sold in time</td>
<td>• I need to rush</td>
<td>• Concerned as I need to sell this fish as fresh as possible</td>
</tr>
<tr>
<td></td>
<td>• Pressure to maximize the shoal</td>
<td>• Tired after a long day of fishing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Adrenalin rush</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Touch points</td>
<td>• Cooler slot</td>
<td>• Cooler bags</td>
<td>• Cooler bag</td>
<td>• Fish Tag</td>
</tr>
</tbody>
</table>

**Note:**
- This image is a table that outlines a user experience journey, detailing actions, mindset, feelings, and touchpoints at each stage of the process.
Prototype

Please see below the mock-ups generated on build: https://standard.build.me/prototype-editors/api/public/v1/snapshots/1d49dc767e0800640e17af20/artifacts/latest/index.html#/launch-page

Fishing Boat