Project Title: Virtual Eye-Lifeguard for swimming pools to detect active drowning
Project Design Phase- I – Solution Fit Template
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Define CS, fit into CC

1. CUSTOMER SEGMENT(S) `CS`

Who is your customer?
i.e. working parents of 0-5 y.o. kids

Every candidate attending a National Pool Lifeguard Qualification (NPLQ) course must be 16-years-old and jump or dive into deep water. swim 50 metres in less than 60 seconds

6. CUSTOMER CONSTRAINTS `CC`

What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices.

In this a best Pulse Rate sensor is used to detect the pulse rate of every swimmer it helps to prevent fro drowning accident

5. AVAILABLE SOLUTIONS `AS`

Which solutions are available to the customers when they face the problem
or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking

Prediction process take place only after drowning But we used Deep learning algorithm for Pulse rate detection so that there is a chance for predicting the drowning accident at earlier stage
Merits: predict before drowning under water
Demerits: If network is not available then it doesn't give a result

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS `J&P`

Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.

Beginners, often feel it difficult to breathe underwater which causes breathing trouble which in turn causes a drowning accident in swimming pool .As water is much denser than air, so there is much more resistance preventing people from being able to move through it quickly and freely so sometimes even the experienced people will find difficulty to swim

9. PROBLEM ROOT CAUSE `RC`

What is the real reason that this problem exists?
What is the back story behind the need to do this job?
i.e. customers have to do it because of the change in regulations

- The main problem is an alert is being sent to Lifeguard only after the person is drowned down.
- however, they cannot save a person before drowning down

7. BEHAVIOUR `BE`

What does your customer do to address the problem and get the job done?
i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e.

- Saving people life
- Take effective action in emergency situation
- Attentive and energetic

Focus on J&P, tap into BE, understand RC

Identify strong TR & EM

3. TRIGGERS `TR`

What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.

1. Detect the pulse Rate of swimmer 2. Send an alert message to the Lifeguard

4. EMOTIONS: BEFORE / AFTER `EM`

How do customers feel when they face a problem or a job and afterwards?
i.e. lost, insecure > confident, in control - use it in your communication strategy & design.

Before the detection of active drowning there were many drownings accident worldwide after this, they can only save the drowning person after he/she is drowned down by sending an alert to Lifeguard

10. YOUR SOLUTION `SL`

If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality.
If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.

- Swimming is one of the best exercises that reduce the stress but because of certain reason the drowning accident take place
- In our project we used pulse rate detection so there is a chance for earlier prediction and help to avoid the drowning accident

8. CHANNELS of BEHAVIOUR `CH`

8.1 ONLINE
What kind of actions do customers take online? Extract online channels from #7

8.2 OFFLINE
What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.

ONLINE: Accurate pulse rate detection
OFFLINE: Inaccurate pulse rate detection

Identify strong TR & EM