

Virtual Eye LifeGuard For Swimming Pools
Project Title: To Detect Active Drowning

Project Design Phase-I - Solution Fit Template

Team ID: PNT2022TMIDxxxxxx
PNT2022TMID14295

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS Who is your customer? i.e. working parents of 0-5 y.o. kids Kids love swimming, which is also a terrific way to relieve stress.	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. Such systems are typically created by mounting more than 16 cameras on the ceiling and in the water as well as reviewing the video feeds to find any irregularities.	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. One is that the camera is fixed to the wall of the underwater pool, where it then keeps track on the condition of the swimmers. This equipment's drawback is that if there are too many swimmers, an occlusion issue develops. A second is that the camera installed on the surface of the water tracks the swimmer's stance. Change. When there is an air-water interference, light will reflect and refract. The drowning guy characteristic this approach picked up. Evidently, it is difficult to tell divers from swimmers. It's a third. Combining the two, matching aerial and underwater cameras, observing the stance of the swimmer.	Explore AS, differentiate
	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. Numerous people drown each year, including young children under the age of 5, in the deep end of swimming pools, and lifeguards are ill-equipped to deal with these emergencies.	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. Kids love swimming, which is also a terrific way to relieve stress. But for beginners, breathing can be difficult in the water, which can lead to choking and loss of balance and leads to a drowning mishap, some unique circumstances, such as cramping, physical or mental illness, or collisions. The swimmer may potentially drown due to stress and other factors.	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. Cleanup) The individual who is drowning in the pool must be located, and their activities can be recognised using artificial intelligence technology.	
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. Observing people drowning and knowing that the lifeguards are not prepared to handle these situations are the triggers.	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 really. 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. To find the drowning incident in the swimming pool using Human action detection. The drowning detection model will be used to process and classify video that will be given to the system which will be recorded using live surveillance cameras. The system will break this video in image frames and apply a model over it and if the early actions of drowning like hand waving, water splashing or diving is detected then the system will set the alarm so that the lifeguards can initiate their rescue operations.	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.	Identify strong TR & EM
	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. Beginners frequently experience difficulty breathing before entering the water, which leads to choking actions, loss of balance, and drowning accidents. After the proposed Customers are feeling confident using the new technologies			