Fotu

Photo Sharing Simplified

Initial Plan

The pitch as presented at the beginning of the capstone

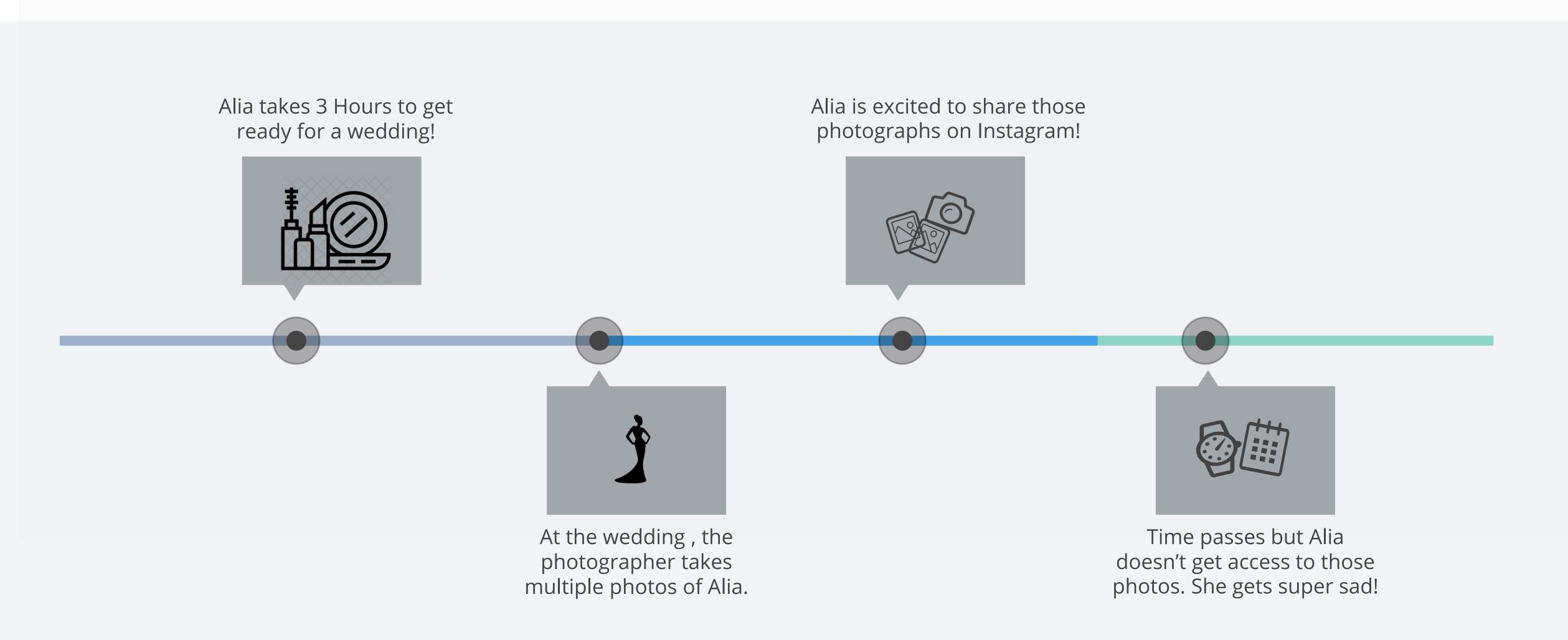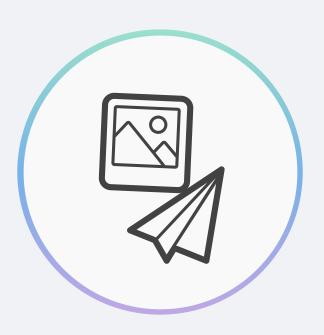# Story of Alia

Alia takes 3 Hours to get ready for a wedding!

Alia is excited to share those photographs on Instagram!

At the wedding , the photographer takes multiple photos of Alia.

Time passes but Alia doesn't get access to those photos. She gets super sad!

▶ **Problem**

" Photo sharing at events is a pain whether clicked via DSLR or phone

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Proposed Solution

Real-time photo sharing using face recognition

How event photography work at present

Currently, people wait for weeks to get their photos.
Most don't even get it at all.

- Photographer/ Photo agency transfers all the photos to a laptop

- They are edited and then uploaded to a disk drive or a cloud service

- Photos are shared with event hosts via a physical drive or cloud link

- Event hosts browse through all photos; share some with close people

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Our Product Overview

Your photos delivered in real time. **Period.**

▶ Event host books high quality & affordable photographer through us

▶ All photos clicked at the event are uploaded to the cloud in real-time

▶ Event attendee's photos are delivered instantly using Face Recognition

▶ Photographers use our platform for managing all images from the event

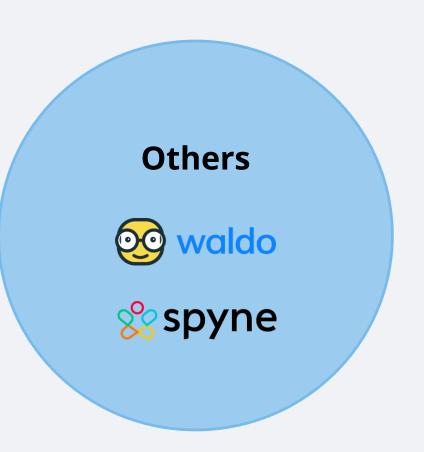▶ Event hosts receive all photos in real-time; edited photos delivered in a day

Market Landscape

Why Now?

Google Photos

1 billion plus users, 1.2 billion photos are uploaded everyday to google photos, with the grand total of all uploaded content measuring over **13.7 petabytes of storage.**
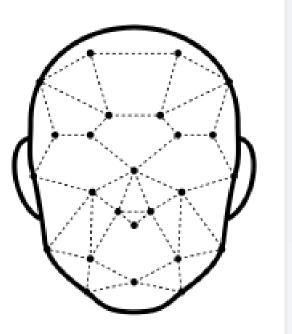
1

Camera Technology

The Wi-Fi camera market is expected to reach **$30k million in 202**4 from the current market size of $14k million. **(CAGR ~ 13.6%)** Reported by Industry research

3

Facial Recognition Technology

In 2018 test, NIST - US department of commerce, found that facial recognition failure rate has **reduced from 4% to 0.2% over 4 years, which is 20x improvement.**

A study published in June 2019, estimates that by 2024, the global facial recognition market would generate **$7 billion of revenue**, supported by a compound annual growth rate (CAGR) of **16% over the period 2019-2024.**

2

Social Media

Long gone are the days when people used print as a medium for photo sharing, today it's all digital.

Instagram is wildly popular with **100m + photos shared per day,** more than **50b + photos till date** and **1b + monthly active users.**

4

Capstone Work

The work that was undertaken during the two month long capstone duration

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Understanding the Problem

Based on interaction we had with several mentors, we decided to do a deep dive

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Potential Stakeholders

Event Guests

Event Hosts

Photographers

Event Agencies

Event Venues

What did the stakeholder say?

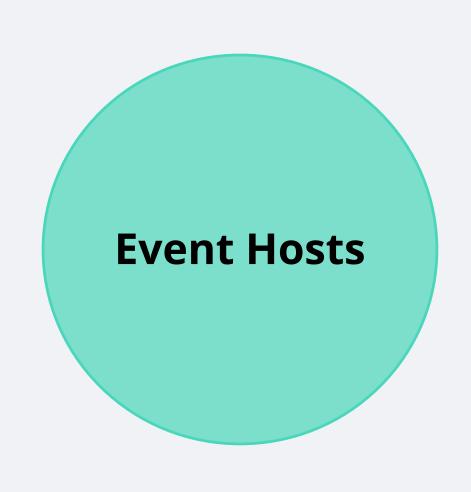**Event Guests**

- Most people we spoke to **validated the problem of not being able to get the photos** that were clicked during events. However, most of them never really asked the photographer or host for them
- Either **they did not expect to get those given the mental model** arround it or **they didn't care** as they had photos from phone cameras which they could use to post on social media.
- **Elderly age group** was more interested in getting the photos, probably due to low technology exposure

We spoke to friends and family as well as Event Attendees at Shiv Nadar University E-Summit for validation

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What did the stakeholder say?

Event Hosts

- Most of the hosts would have been happy to have such a feature at their event, primarily because they saw it as an opportunity **to boost their societal status**. They were **willing to pay extra**
- Some hosts were **apprehensive of photos being shared without them having a look first**
- Some hosts wanted them to be **shared but only with limited people**, not with all people
- Additional Insights, there were two way photographers were hired, either through referral from a relative/ event manager or through a known photo agency/ freelancer (seeing portfolio of work/brand)

We spoke to the hosts of Shiv Nadar University E-Summit and two people who had hosted their weddings in February 2020

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What did the stakeholder say?

Event Agencies

- Event Agencies had fixed set of photographers that they referred. Most of them were freelancer from who they charged commission, very few on roll. They were open to third part photographers
- Event Agencies did not feel the need to be involved with photography as long as there was no additional production/ logistical requirement that they are supposed to meet for photography

We were in touch with Grog Entertainment, Spectal Entertainment and OML for insights from agencies.

What did the stakeholder say?

Event Venues

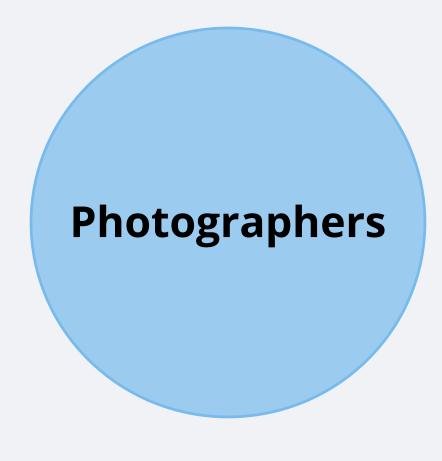- Event Venues had fixed set of photographers that they referred. Most of them were freelancer from who they charged commission, very few on roll. They were open to third part photographers
- Event Venues did not feel the need to be involved with photography as long as there was no additional production/ logistical requirement that they are supposed to meet for photography
- Most of them expressed concerns in terms of network cost for such a service.

We got in touch with founder of Venuemonk, a start-up in this space and through it reached out to banquets and hotels

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What did the stakeholder say?

Photographers

- Most photographers seemed positive of this however they felt that since **hosts had hired them, permission from them would be** necessary. Only then will they use such a technology
- Some of them expressed concerns about how **privacy and copyrights of photos** could be an issue
- Most of them expressed concern arround **sharing raw photos with everyone before payment**
- They felt this could be help them for **lead generation with the guests** at the event
- **Ergonomics of handling** this was an important factor for photographers to use it

We got in touch with – Nischay Chhabra (World Through Lens), Laxmi Digital Studios and Freelancers – Nishant KT and Rahul Baghel

Synthesizing the Feedback

Event Hosts

Booking photographer for event is a hassle

Post event delivery of services is stretched

Real-Time sharing is nice add on feature

Photographers

What they need is lead generation

Sorting & Selection – Consuming & Boring

Doubtful of real-time photo sharing

Event Guests

It's problem for them and they would be happy to get photos, however its not a need so they won't pay for it

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Exploring Product Market Fit

SaaS Model

Cloud Storage Services

Photo Sorting and Culling Software

Real Time Photo Sharing Device

Lead Generation through Photos

Easier & Faster Delivery to Client

(Single Player Mode)

Subscription Model

Market Place Model

(Single Player Mode)

+

Photographer Listings

Uber for Photography
(Matching based on Demand)

Fast Delivery Commitment

Real Time Sharing as Novelty

Commission + Subscription Model

Additional

Real Time Photo Sharing
Hardware & Software Solution

Photography Equipment
Rental Service

Conventional Business/ Sharing Model

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Narrowing Down & Revisiting the Solution

After exploring the possibilities, we decided to narrow down on the problem

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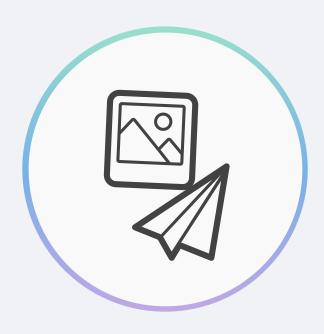# What we wanted to solve for?

Hosts: Booking a photographer for an event is a Hassle

Photographers: Managing & Sharing Photos is Tough

Guests: Most of them are unable to access their event photos

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Fotu: Enabling Photographers

Tech Enabled Platform for Photographers

Enabling Better & Faster Client Service

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Value Proposition

Photographers

Real-time Cloud Backup of photos enabling faster delivery to clients

Cloud based software for managing, editing and sharing photos with clients

Enable Lead Generation through photo sharing

Hosts

Realtime access to all event photos and novel feature for their event

One-day delivery of edited digital copies of all the photos

Guests

Hassle Free and Real-Time access to digital copies of individual and group photos for instant social media sharing

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Business Model

SaaS for Photographers

{
Store, Sort, Cull & Edit Photos
Share Photographs Easily with Clients
Real Time Photo Sharing Suite
}

Subscription-based Model

Initially we focus on building value for a value for photographers as our paying customer

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Gradually move to a Marketplace Model

For Consumers

Photographers Marketplace

Connecting event hosts to superior quality as well as affordable photographers for any event

Commission-based Model

Move to Bigger Goals

Drive higher incomes for photographers through a simple commission model & more clients

Hosts can easily connect with photographers at affordable prices and avail standard services
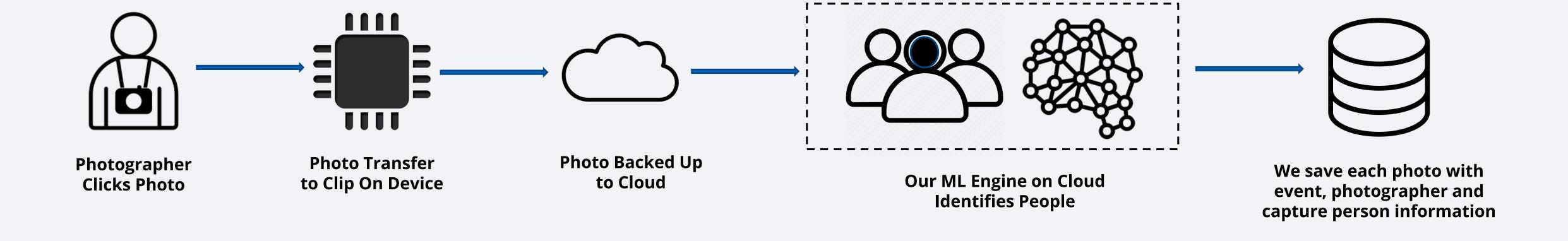
We move from Single Player mode where we build supply to Multi Player mode and leverage Network Effects

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Product Development

Once we decided on the goal, we began developing the product

Product Design and Architecture

Photographer Clicks Photo → **Photo Transfer to Clip On Device** → **Photo Backed Up to Cloud** → **Our ML Engine on Cloud Identifies People** → **We save each photo with event, photographer and capture person information**

How its used?

Event Attendees/
Guests upload a Selfie

Our server fetches
from the database

Central Database with each
photo with event, photographer
and capture person information

Matching Between
Uploaded Photo & DB
Photos takes place

Our Photographer Platform can
be used to access all photos,
edit, sort, filter and share with
client. Currently filtering based
on Technical Information

Matched Photos are
added to a folder and
shared via Email

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Tech Stack: Hardware

Raspberry Pi

As our prototyping board so that we could quickly hack our way and test the MVP in action

Network Routers

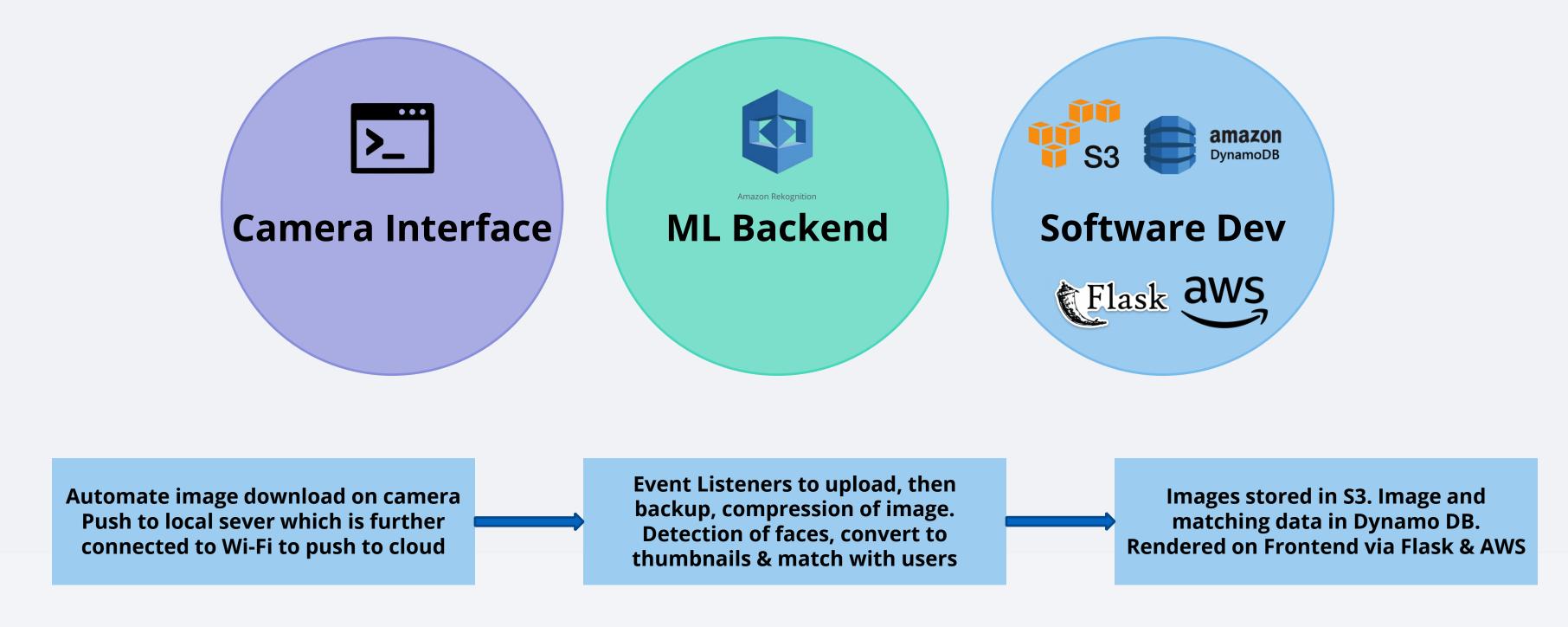Net Connectivity Challenge LAN for transfer of pictures from peripheral devices

DSLR Camera OS

Different DSLRs OS mapped to a uniform data structure for devices to interact

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Tech Stack: Software

Camera Interface

ML Backend

Amazon Rekognition

Software Dev

S3

amazon DynamoDB

Flask   aws

| Automate image download on camera Push to local sever which is further connected to Wi-Fi to push to cloud | Event Listeners to upload, then backup, compression of image. Detection of faces, convert to thumbnails & match with users | Images stored in S3. Image and matching data in Dynamo DB. Rendered on Frontend via Flask & AWS |

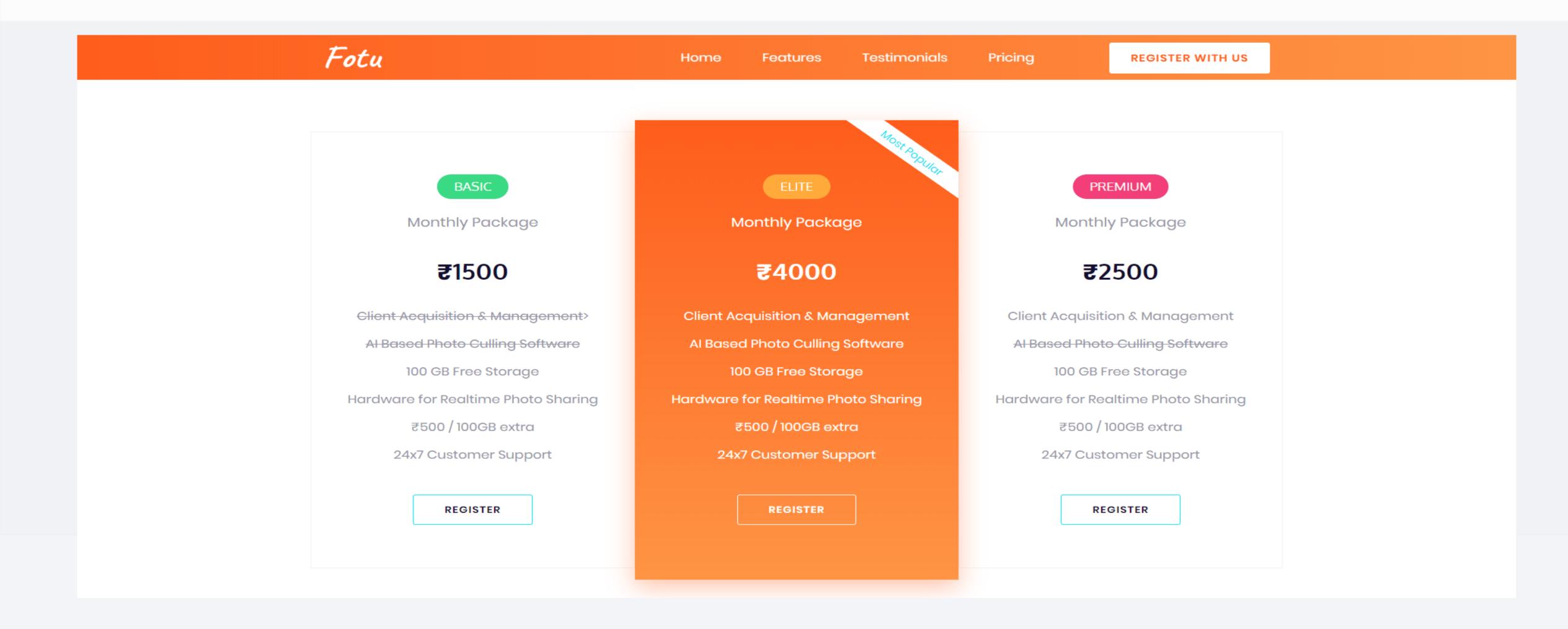We tried custom face recognition using our own architecture & existing architectures like DeepFace and FaceNet but the performance wasn't great.

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Our Website

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Our Pricing Strategy

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Challenges/ Things We Didn't Do Right

We struggled at a lot of things right from the onset, culminating with COVID

Who is our Paying Customer?

- We struggled in finding out our paying customer. We were clear that the user is an Event Attendee although as for him it was a customer delight feature only, he would never pay for it. So we had to look into the ecosystem for other stakeholders

- Event host can be one possible paying customer but since our product was dependent on a photographer, a photographer had to be on boarded. Also the additional margin we could charge for real time sharing was not consistent

- Ultimately, it had to be photographer who was a key for our product to reach events and hence we had to build sufficient value proposition for him to ensure he buys our product which in turns serve the goal of customer delight for the attendee

- The challenge however which we realised late was that the margins were low and fragmentation amongst photographers was high. So they are not an ideal customer for a SaaS like service, they would have mostly remained in the free bucket

- What mattered more to photographers is if we could do client acquisition for them

Can we scale using Network Effect?

- We always felt that the Uber for Photography model could have worked as it had some component of network effect which have helped in scaling but there were a few issues

- Most networks/ marketplace models initially need a single player mode that is focussed on supply to help bolster it. Only once sufficient supply is ensured, can we focus on demand. (This is what we kept in mind while we started with SaaS)

- One of the other problems we could see with a market place model was that it's a low frequency event. There are very few instance when a person books a professional photographer. Generally marketplace models have high frequency

- We thought of corporates as a possible place where frequency could have been higher

How do we achieve a Product Market Fit?

- We realised early on that the problem statement we had set out with was resulting in customer delight and not an actual need.

- We studied the market in depth to understand the overall problems so that we could achieve a fit

- Finding a need was important but equally important was to see if we have customers willing to pay for the need

- Probably we also made the mistake of trying to scale without building by thinking to many options and not executing enough

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Some Logistical Challenges

- We faced a challenge arround network connections at event venues and how we could overcome that. Explored multiple possible solutions for that. Tried our hands at lossless compression also

- Another major hurdle was the hardware we had was bulky and photographers required something very light. This was possible only with custom hardware, where we lacked both funds and expertise

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Final Nail in the Coffin: COVID -19

As COVID hit the entire industry by the second week of march, we were affected majorly as we had to test our product in the market and suddenly we couldn't do it at all given the lockdown situation. What has unfolded since is pretty evident

Exploring A Pivot

New horizon opening due to the COVID19 Pandemic

In the Same Direction, A New Use Case

As the world is struggling with COVID, one of things that going to become very important in the times to come, when all countries emerge out of a lockdown is tracking the movement of people at all public places – malls, showrooms, markets amongst others.

Since we already have the facial recognition and the associated pipeline ready, we have a possible new use case for the technology we built. We are also planning to integrate Thermal Cameras with this for better results.

We are looking for our first customer. Open to providing this technology for 6 months post the lockdown opens for free.

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Thanks & That's Our Team

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Co-Founder
Technology & Operations Lead

Ex- McKinsey| NSIT Delhi '18

Manan Arora

Co-Founder
Product & Business Lead

Ex-IQVIA| Shiv Nadar University' 17

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We want to thank these people for their support

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Nishant KT (Freelance Photographer)

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