

COLOUR CHANGING SYRINGE

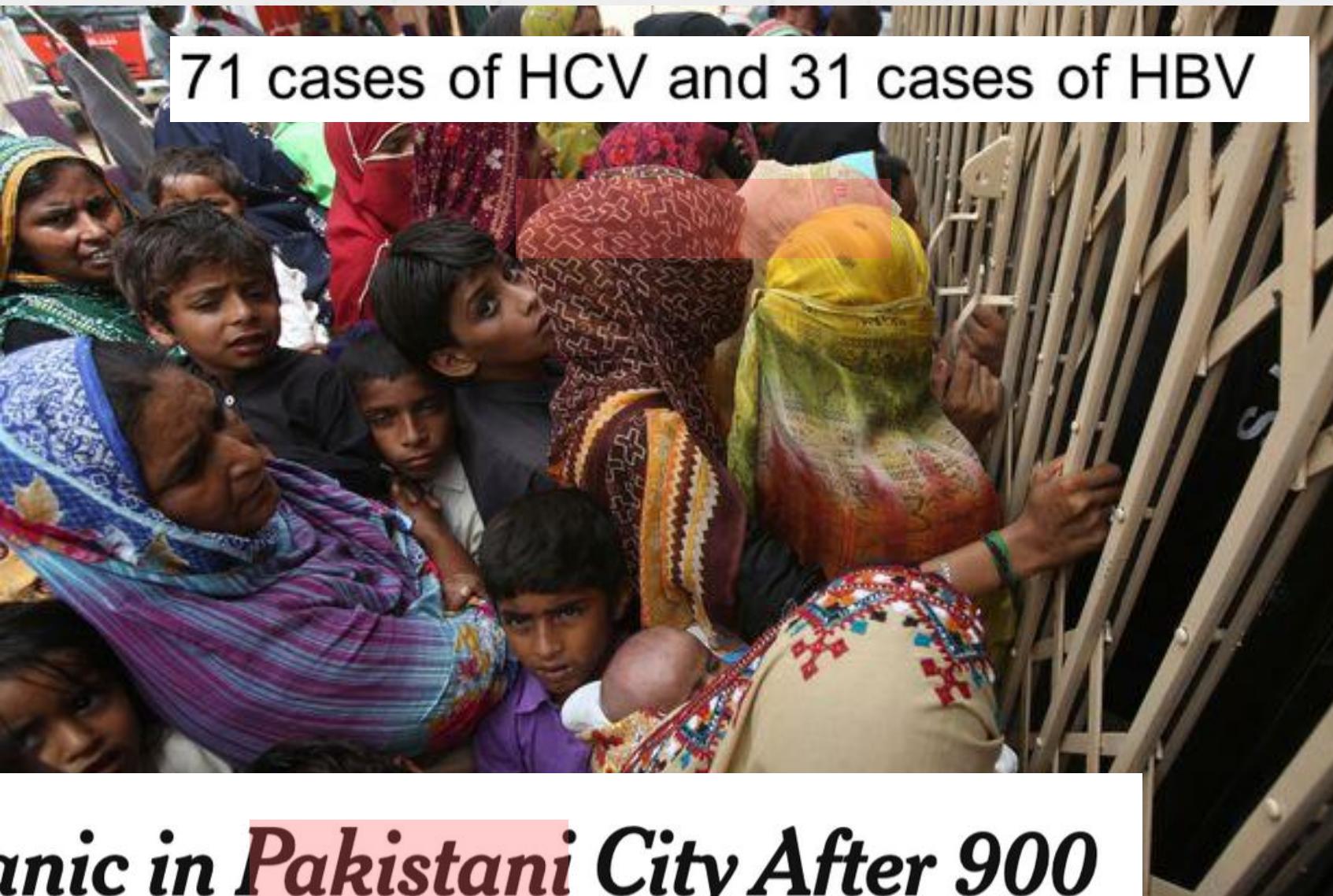
SIMRA SHAHID

Millions are dying everyday!

Hepatitis B outbreak in Gujarat: a wake-up call

2002: Oklahoma pain clinic

71 cases of HCV and 31 cases of HBV



Panic in Pakistani City After 900 Children Test Positive for H.I.V.

Mass Injections Spread Hepatitis Across Egypt

In 2016 WHO estimated that 40% of the 16 billion injections were given with reused injection equipment leading to:

1. 21 million new Hepatitis B cases
2. 2 million new Hepatitis C cases
3. 260,000 HIV cases
4. Viral haemorrhagic fevers such as Ebola and Marburg.

Problem

Every year, 1.3 million deaths are caused by unsafe injections, due to the reuse of syringes.

Problem 1

Reusing a syringe puts patients in danger of contracting Hepatitis C, Hepatitis B, and possibly HIV.

Problem 2

There is no visual difference between a used syringe and a sterile syringe. High chances of accidental reuse too.

Problem 3

Existing solutions are too expensive to be instigated.



Colour Changing Syringe

Within a minute, on exposure to light it changes to blue. This is a non reversible reaction.



Utopia

This Color-Changing Syringe
Could Save Millions Of Lives.

Solution 1

Permanent visual colour change instigated
to reduce risk of reuse.

Solution 2

Cheap and readily available photochromic
colour dye used.



Target Market

Hospitals currently account for 66.5% of revenues in the global syringe market

1. Syringe Manufacturers
2. Hospitals
3. Veterinary clinics
4. Blood collection centers
5. Diabetic centers



Direct Competitors



Size the Market

- According to WHO, 16 billion injections are administered each year globally.
- According to International Diabetes Federation, the diabetic patients are forecasted to grow from 415 million in 2019 to almost 642 million by 2040 across the globe, rapidly increasing the demand for disposable syringes.

11 B

EXPECTED GROWTH BY 2026

7.10 B

MARKET VALUE IN 2019

Competitive Advantages

We make use of a cheap and readily available pigment. This changes colour when in contact with light.



PITCH DECK V 1.0



Advantage 1

Accidental reuse by doctors wont take place.

Advantage 2

No additional training required for using the syringe, unlike the competitors.

Advantage 3

AI Solutions can be used due to the notable colour change and help to catch violators using surveillance.

Advantage 4

The time for colour transition from light blue to dark blue can be configured at manufacture time.



BLUE IS YOUR CLUE



PITCH DECK V 1.0

Competitor Approach

AUTO DISABLE SYRINGES

- Disables after one use. - Can be deliberately reused.
- Training required to use this syringe.

SHARP INJURY PROTECTION SYRINGE

- Plastic needle shield to be added to a syringe.
- Sharp waste is removed.

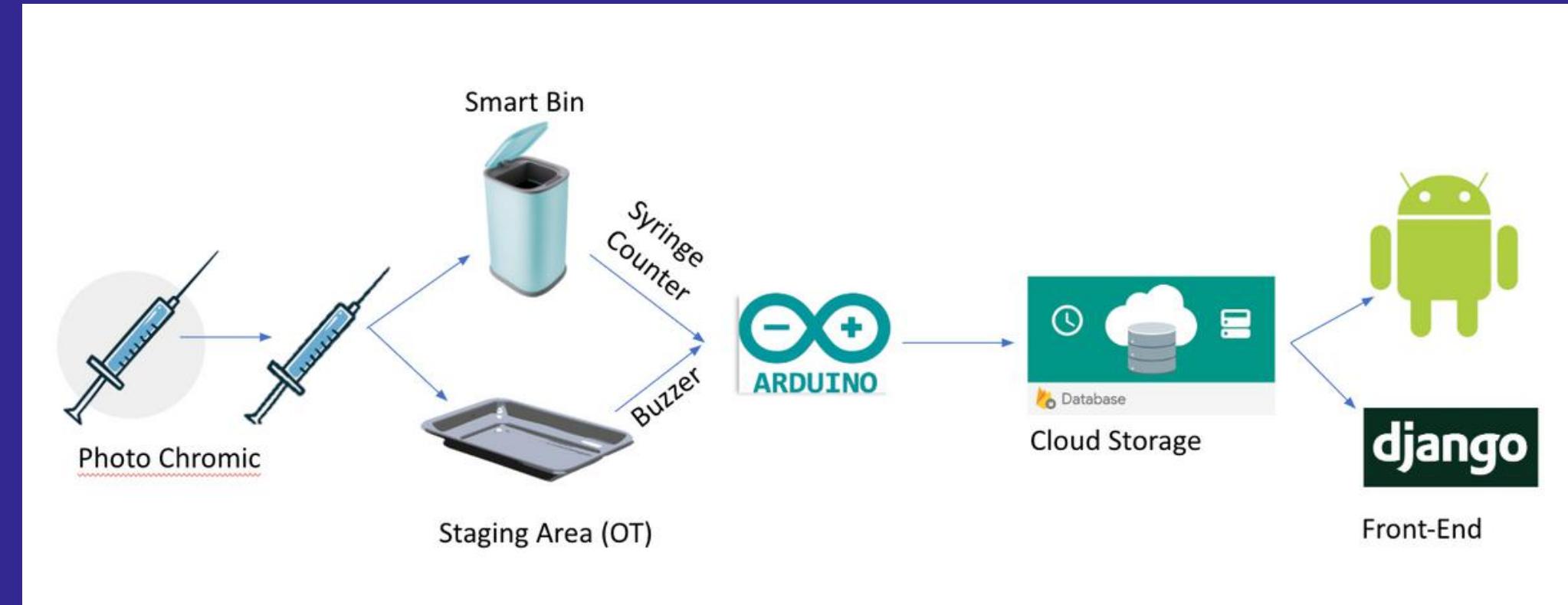


First Pitch - Sept 2019

We built a prototype for the Singapore India Hackathon 2019. We were felicitated by Prime Minister of India, and Minister of Singapore, Ohn Ye Kung.



Staging Area



Smart Dustbin



The Team

Simra Shahid

Undergraduate Student at DCE, India

Mane Ravikiran Tanaji

PHD Student at NTU, Singapore

Shivam Grover

Undergraduate Student at BVCOE, India

Sukrit Gupta

PHD Student at NTU, Singapore

Nikhil Kalra

Undergraduate Student at BVCOE, India

Aradhya Abhay

PHD Student at NTU, Singapore

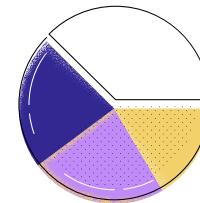


Future Roadmap



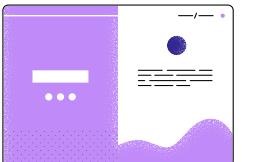
Step 1

FAMILIARIZING THE
PRODUCT WITH PATIENTS



Step 2

TEST OUT THE PRODUCT IN
HOSPITALS



Step 3

STANDARDISE THE
PRODUCT



Step 4

ENFORCE PROTOCOLS
BY GOVT OF INDIA