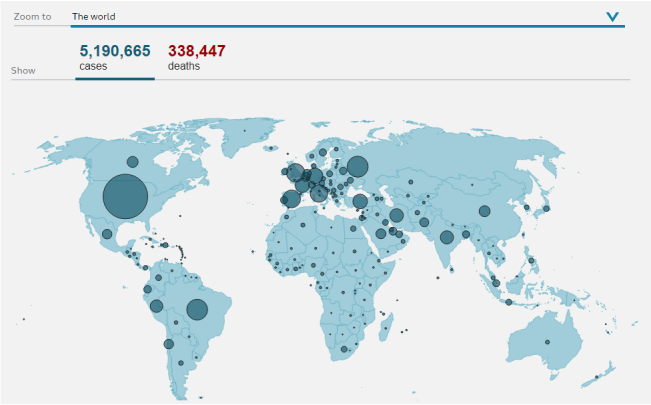
Proximity Shield

Accurate way of social distancing

Problem Statement

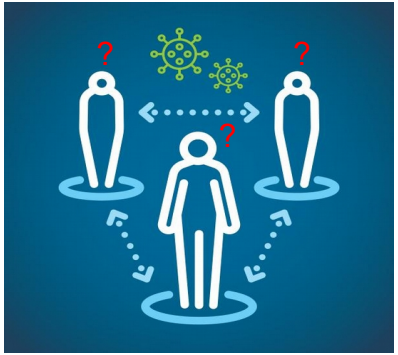


Global COVID-19 Pandemic

Govt. Enforced Lockdowns

Social Distancing

(recommended by WHO & MoHFW)



Mostly Guesswork

Problem Statement (contd.)

Implications

Covid-19: Cadila Pharmaceuticals shuts down Ahmedabad plant after 26 employees test positive

A senior government official said Cadila Pharmaceuticals closed its Ahmedabad plant as five employees tested positive last week, and 21 this week.

CNN BUSINESS Markets Tech Media Success Perspectives Videos Edition

Tyson will close its biggest pork plant after workers call out sick with coronavirus

By Chauncey Alcorn, CNN Business
Updated 2243 GMT (0643 HKT) April 22, 2020

FORTUNE RANKINGS MAGAZINE NEWSLETTERS VIDEO PODCASTS CONFERENCES COVID-19

POLITICS
What to know about Juneteenth this year as protests against racial injustice sweep the U.S.

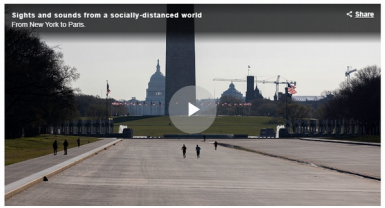
SPORTS
NCAA encourages day off from college sports on election day

FINANCE
Why Cnn is the latest Wall Street giant to back the new MEMX stock exchange, launching this fall

HEALTH • CORONAVIRUS

Social distancing until 2022? It may be necessary, according to Harvard coronavirus researchers

BY JOHN TOZZI AND BLOOMBERG
April 15, 2020 7:35 AM GMT+5:30



- Forced factory shutdown → Lost revenue
- Workforce tested +ve → Lower productivity

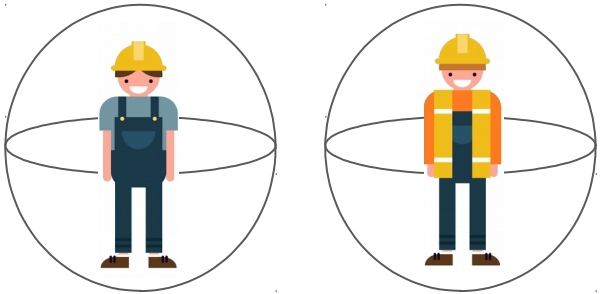
Proposed Solution

- Wearable IoT device that enables quantifiable social distancing
- Workplace tag/headgear/wristband that employees carry
- Creates a virtual bubble of programmable radius

Headgear

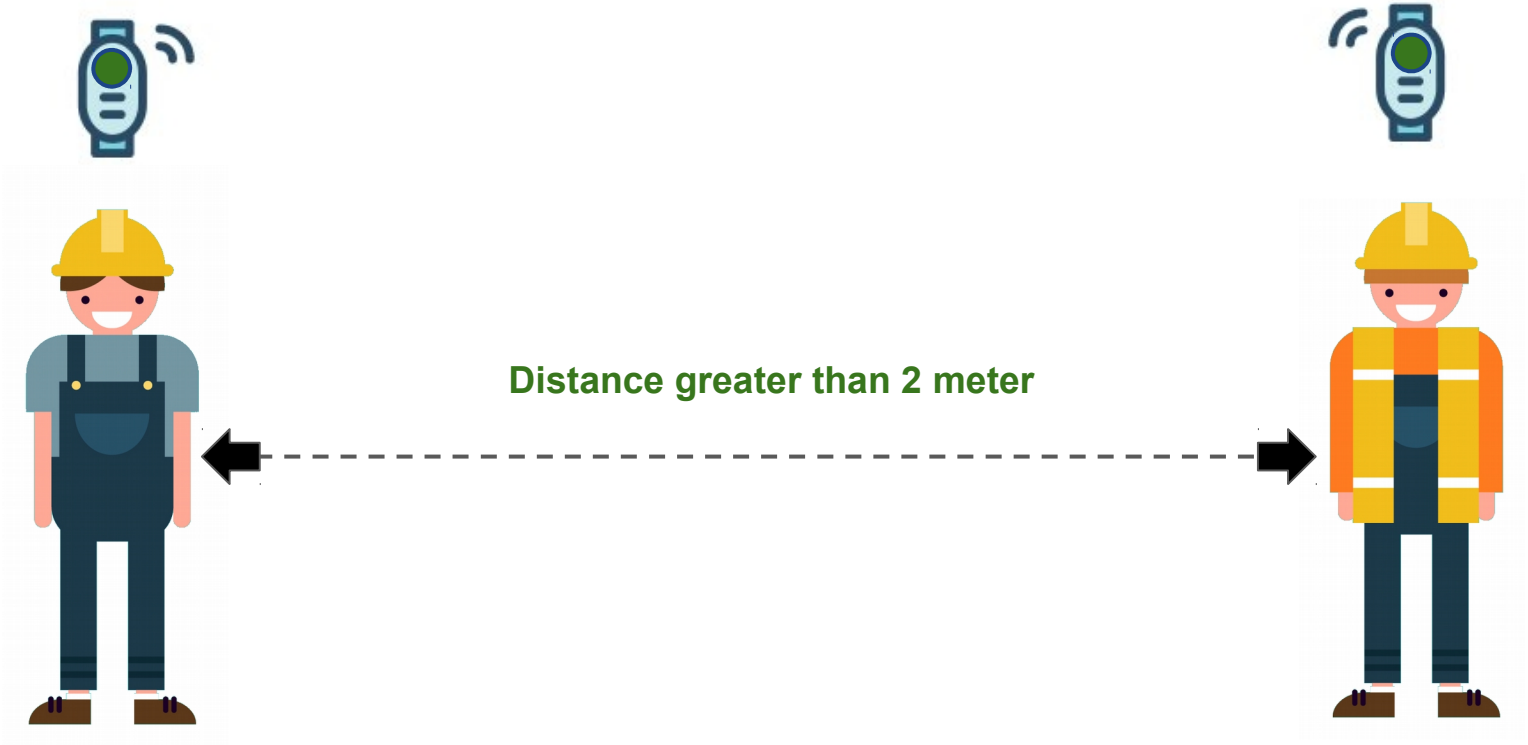
Tag

Wristband



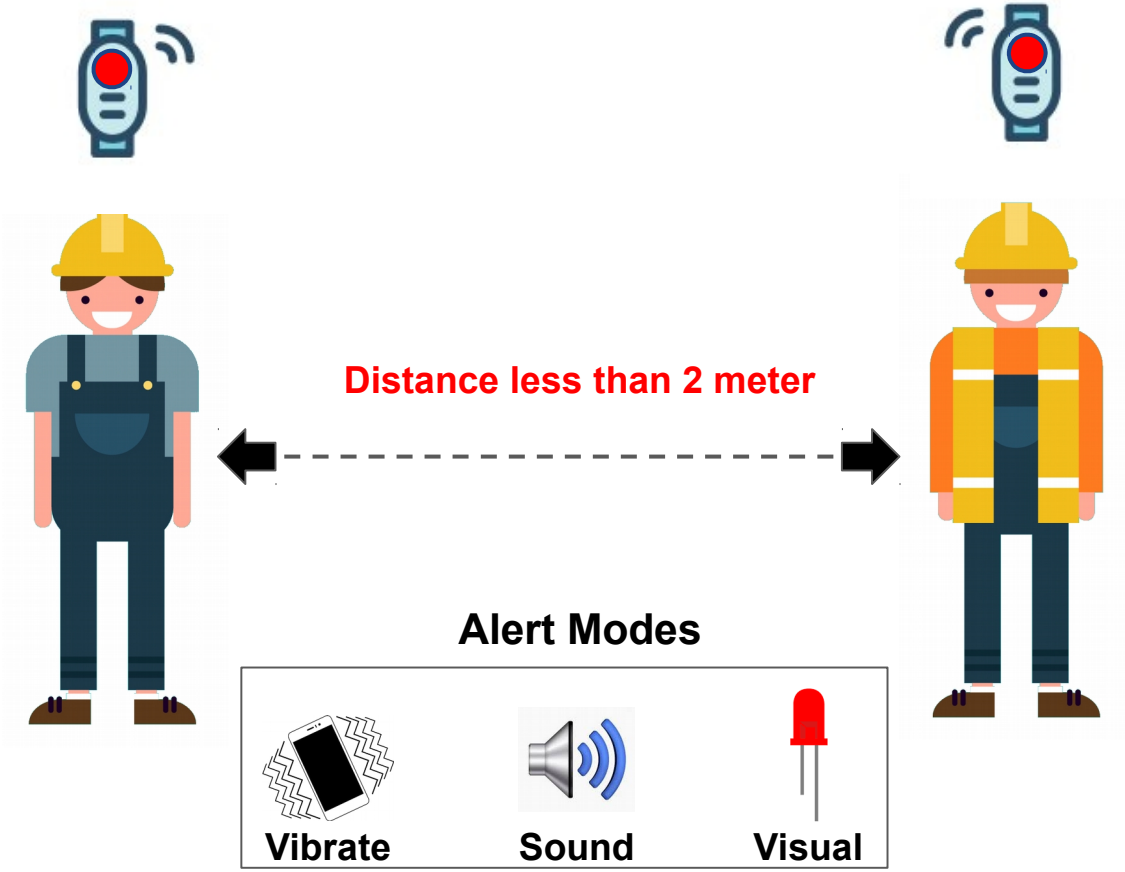
Virtual bubble

Social Distance - Safe



** safe distance is programmable*

Social Distance - Unsafe



Features List

Solution Features

- Alert when social distance is violated (*Visual, Sound or Vibrate*)
- Logging of social distancing violations (*Optional*)
- Analytics for managerial supervision (*Optional*)

Hardware Features

- Light weight & Robust
- Rechargeable Li-ion battery
- Cloud storage with automatic data upload (*Optional*)

Benefits

- Automated social distancing → Worker productivity maintained
- Significantly reduced chances of transmission → Prevent forced shutdowns
- Monitoring & Reporting → Contact tracing

Team

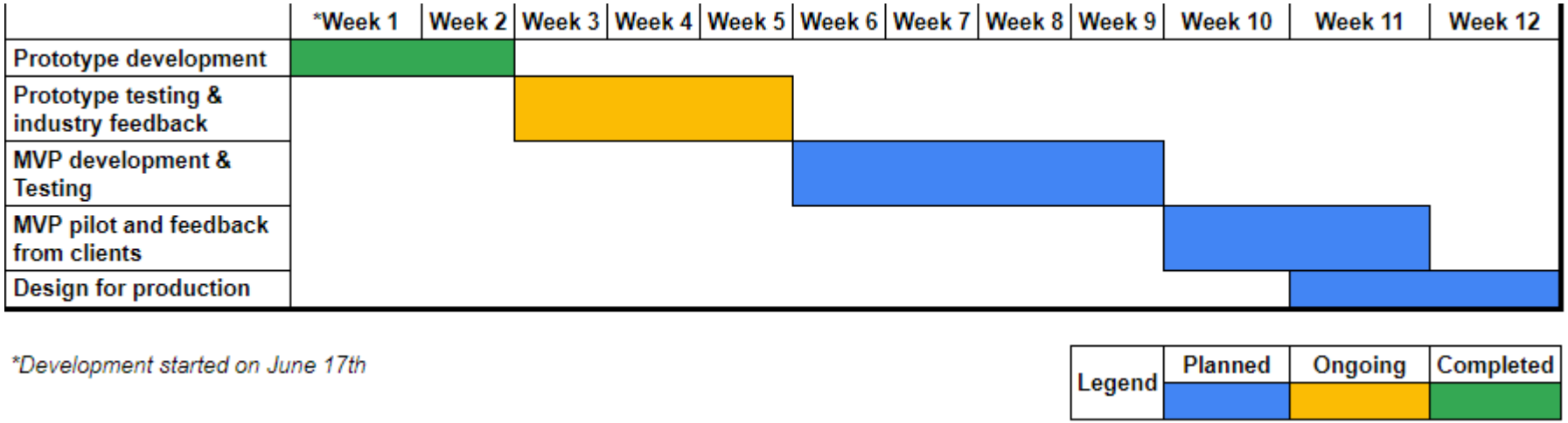
Saad Khan
Full time - Mechanical

Zeeshan Ali
Full time - Software

Abhishek Shah
Full time - Electrical

Ankit Purohit
Full time - Physics

Timeline


*Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Prototype development
Prototype testing & industry feedback
MVP development & Testing
MVP pilot and feedback from clients
Design for production
*Development started on June 17th
Legend
Planned
Ongoing
Completed

Funds

Activity	Funds required
Hardware design	Bootstrapping
Embedded Software	Bootstrapping
Dashboard - Front end & Back end	₹ 150,000
Procurement of hardware components for 200 pilot devices	₹ 200,000
Fabrication, assembly & packaging	₹ 130,000
Logistics & travel	₹ 20,000
Contingency	₹ 50,000
Total	₹ 550,000