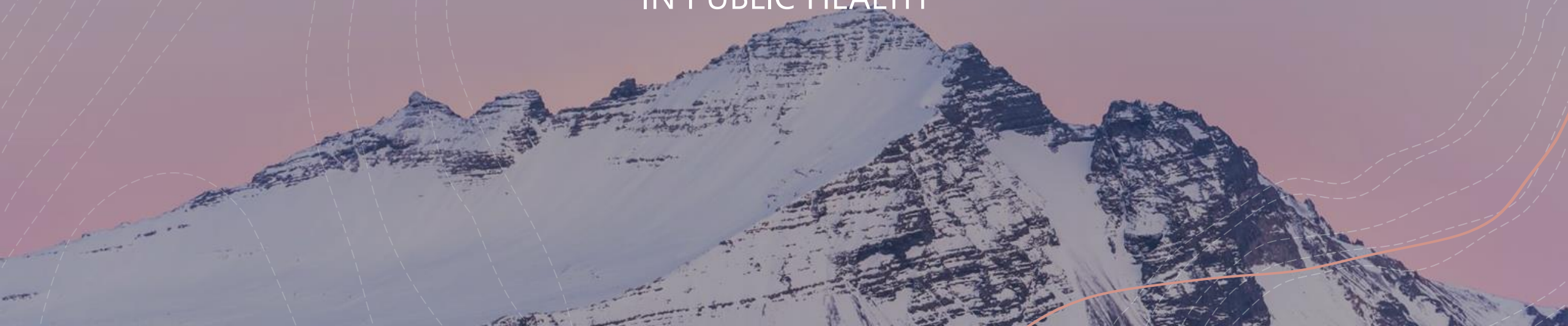
TRACEBOOK

IN PUBLIC HEALTH



1) THE IDEA

The idea is to create an app which could help the public be more informed in their decisions.

This app will provide its users relevant data to its users so that they may make use of it to make informed decisions.

This data will be anonymized to prevent any privacy issues that may arise from location and status tracking of individuals.

2) How its going to work

- Users of the app are required to input their status every once in a while.
- The app then categorises the individuals into different risk categories… High, medium and low risk.
- This categorisation depends upon the data inputted by the user i.e where they’ve been, how they are feeling and other basic data such as blood pressure, breathing rate,spO2 saturation etc
- The users will be advised and encouraged to have their GPS and bluetooth on whenever they leave their house in order to keep track of where people have been at what time.

- The app keeps track of where its users have been and what their risk categories are.
- This data is anonymized and then displayed and available to all its users in the form of a map where then can see the different locations and a number count of all the people who have been there at a particular time slot.
- So for example if a person wanted to go to the nearby supermarket, they can use the app to decide for themselves whether it is safe to go there or not depending on the risk categories of the people who have visited I
- The app will inform its users if they've come into contact with any high risk or medium risk and give suggestions to home quarantine and take the safety measures required.

CATEGORISATION OF THE USERS

- Fever
- Dry cough
- Tiredness
- Blood pressure
- Tiredness/ muscle weakness
- (less common symptoms)
- diarrhea
- conjunctivitis
- headache
- loss of taste or smell
- a rash on skin, or discoloration of fingers or toes

- Pulse rate
- Respiration rate (rate of breathing)
- Blood pressure
- Difficulty in breathing
- Saturation
- chest pain or pressure

DESIGN

- The design is intended to be very easy to user i.e user friendly.
- The app would consist of a home page where the user and sign in and input their data once every now and then after which the app would categorise them.
- The second page would be a map with all the different locations in that locality.
- One can select a particular location and then they would be asked to select a time slot.
- After this with respect to the given location and time slot the app would compute and display the safety of going there with regards to the risk categories of people who have been there before and this data would be accessible to the user and they would be able to see the number of high, medium and low risk individuals who have visited that place in said time slot and make an informed decision themselves.

EXTENSIBILITY

- One major issue which arises is whether this app will still be applicable to the future epidemics and pandemics.
- This is because the testing factors which play a role in determining the risk category will change from one disease to another.
- For example symptoms of covid 19 mainly includes coughing, sneezing, throat pain and other respiratory issues.
- However future outbreaks may not be respiratory and this means the testing criteria changes on a case-to-case basis.
- This is why the app would be updateable and can adapt depending on the latest outbreaks and research findings.
- For example if excessive sweating were to be a symptom then the app could be updated to add it to the array of questions displayed in order to categorise the individual.
- Thus the app would continue to remain relevant in the pandemics to come.

HOW THE APP COULD HELP GOVERNMENTS

- This app can also help governments of financially backward countries by make the process of contact tracing less time consuming and less expensive.
- Test kits especially during the early days of an epidemic or a pandemics can cost a lot and thus need to be used judiciously.
- Using this app governments could identify and locate possible hotspots of infection and effectively isolate that community and test them.
- Also they can locate where the citizens are going and can temporarily shut down those areas or limit the number of visitors to that particular area.
- By doing this the government can reduce the total number of cases by efficient and early measures by locking down certain areas, disinfection of hotspots and active testing.
- By lowering the number of cases there is less amount of stress put on the healthcare industries and thus this results in a low death toll.(flattening the curve)

THE PROBLEMS IT SOLVES

- One of the most persistent issue it solves is the fact that the public does not have access to most of the data related to covid cases tracing.
- And this means that the public are less aware of regions of high prevalence and do not know which places to avoid at all costs.
- This also means that one might not know whether he/she has come in close contact with a high risk individual and thus may not take the apt measures and may continue to spread the disease unknowingly asymptomatically.

- During the early days of the pandemic in India not much effort was put into efficient contact tracing.
- Later all contacts of a person who tested positive would be called and inspected.
- When cases started to spike in certain cities the government introduced door to door inspections where officials would go from one house to another interrogating them on where they've been and how they feel and take some basic medical check-ups.
- The above stated methods used by the government were indeed effective but the government could not get it setup during the most crucial phase of a pandemic which is the beginning and thus now we can see the surveillance in large metro cities of India to be incredibly high.

- And thus during the early days of future pandemics which are the most crucial the people can make informed decisions which may help in reducing the spread of the pathogen before the governmental organisations can setup their institutions.
- And as stated earlier is could help governments locate hop spots very early on in the pandemic and effectively impose lockdowns and isolations and test kits can be used judiciously (since the availability of test kits during the first few weeks of a pandemic is scarce and expensive).
- Another point is that the app is very simple to use. The user just selects a location followed by a time slot and they receive the data.

THE CODE

- The code for our idea will not fully display what our app would be and would just be a basic framework of it.
- The ‘quiz’ which would be much more vast in the actual app would only have 6 questions in the code.
- Also due to our minimal knowledge of code we have also only added 5 places and 6 time slots to check and access the data. Our idea is to have an interactive map with more time slots.
- This code will be very basic as its done on c++ and will not look the prettiest but helps in showing the fundamental principles of the idea.
- The code also does not contain all the features that the app would.

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Would you like to take the quiz or proceed to the COVID'19 map?
 Answer : ' proceed:1' or ' decline:2'1

Here are your questions.
 Answer then in the format as specified -if yes:1 no:0

Do you experience dry coughs?1

Is your body temperature above normal?
1

Do you experience tiredness or muscle weakness?
 1

Any difficulties such as difficulty in breathing or interstitial pressure?
1

do you have nasal congestion or runny nose?
1

Have you of your knowledge come in contact with any other covid positive or feve
rish person?
1

 Looks like you have quite some risk! Take care, stay safe!
Would you like to view the map(1) or quit the app(2)1

Please choose your location
 (0)Mall,
 (1)Restaurant,
 (2)Supermarkt,
 (3)Theatre,
 (4)Book store,
 (5)NetCafe1

Here are your choices :
 (0)12-4 AM
 (1)4-8AM
 (2)8AM-12PM
 (3)12-4PM
 (4)4-8PM
 (5)8-12 PM1

 Here's the data:
 High risk individuals=15
 Medium risk individuals=100
 low risk individuals = 246
Thank you for joining us in staying cautious of this pandemic. Have a good day.

Please remember to take all the necessary precautions as mandated by the governm
ent.
Wash your hand thoroughly.
We advice leaving any goods purchased outside in the sun for a while.
If you are wanting to visit this place masks are a must along with pocket saniti
zers to use whenever needed.
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THANK YOU