

EXPOSED

Digital Approach to handle pandemics

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Team – UX Bulls

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Cognizant®

The Idea

Coming together as community

COVID-2019

COVID 2019 does not require any introduction. It has spread like wildfire and brought great countries to halt. The pandemic has not only kept increasing the count of fatalities but also it is going to leave a deep scar in the economies and society. But nothing can compare the value of loss of human lives. Science and technology can play a very vital role to help society during times of distress and pandemic.

**“And so, the talk was to say, hey, we're not ready for the next pandemic, but in fact, there's advances in science that if we put resources against them, we can be ready. Sadly, very little was done.” -
Bill Gates on TED Talk**

There is no need for world war for the destruction of society. This pandemic has equally proved to be as dangerous as wars - based on the impact on society, economy and the fatality count!

Vision of visionary

Bill Gates' vision shared a clear message on pandemic control on TED talk. We saw there was an advancement in defence growth, flourished economies, increased international trades and business.

We sent Cassini to Saturn to find the next habitable planet for humanity. But we stopped focusing on small problems till they become pandemics. Due to high transmissible nature of the COVID-19 disease, the primary precaution of each was to implement the social distancing, resulting in a complete lockdown of the countries.

Inevitable Problems and Solution

These lockdowns slowed down the global economy. Business and trades faced a major impact from the lockdown. Many small businesses remained shut down, resulting in increased unemployment; adding more problems to COVID-19 pandemic challenge. The demand-supply chain got disrupted. The unavailability of essential items during the lockdown created significant chaos in society.

Am I infected with CORONA virus? How am I going to get a regular supply of insulin for my parents? How am I supposed to get the milk for my child? My shop was the only source of my income; without sales how will I feed my family? I need to sell my vegetables and fruits from stopping them to get wasted and for some cash inflow to me.

These kinds of questions were raised in society. The administration is doing its level best to prevent the spread of the COVID-19. But micro-situations generated in the society (mentioned above), cannot be addressed individually. In recent years, digital technologies have established broad communications and relieving human resource dependency to a huge extent.

The main motto of the mobile application:

1. To enable digital help in restoring the movement of the essential commodities and services with the door-step delivery.
2. Reduce chaos in society during the times of pandemics or health crisis.
3. Help the local business to continue their business following the rules and regulations imposed by the Government Authorities.
4. Give a platform to the volunteers to come forward in the time of a pandemic and contribute to the society.
5. Contribute to a better supply/demand pandemic business model to ensure mobility in society and control the spread of the pandemic.
6. To help minimize the lockdown's impact on the society and economy.
7. To help and support the idea of social distancing.

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An Initiative

Mobile Application

According to a survey, the current number of smartphone users in the world today is 3.5 billion, and this means 45.04% of the world's population owns a smartphone. The application is targeted for smartphones to increase the user volume and implement crucial features to reduce chaos in the society.

The lightweight application requires low phone memory. The data is collected from hosted sources in JSON format, reducing the network bandwidth. The IBM cloud services help the application to run in a serverless model, thus increasing the scalability.

Registering businesses and Online Services Delivery

It provides small shops, vegetable/fruit vendors, milk distributors, healthcare services (ambulances/pharmacies) and pathology labs with a platform to register for online trades and start selling. The users can see the shops around the area and check their inventories and order the essential commodities. These commodities will be delivered to the doorstep by the registered volunteers from the area. This ensures the operations of small business is not impacted during times of crisis.

For emergencies, the application can provide and connect with the nearest ambulances/healthcare professionals for further guidance. It serves as an e-healthcare application that unites the various healthcare services, ready to serve society during the pandemic.

Registering volunteers

In the times of pandemic or crisis, society faces a lack of manpower. The police, healthcare professionals are the manpower at disposal to the administration.

The society should come forward and nominate members from the area to provide service for one day and follow the protocols of quarantine. E.g., Register for delivering essential commodities from the shop to doorstep of the customer or to help the local authority to maintain lockdown or to help the paramedics for providing healthcare services for one-day and follow self-quarantine.

Scope of Machine Learning/Artificial Intelligence

The major cause of the global transmission of COVID-19 is due to international travel.

Gathering the user's travelling information from the various airlines' data source combined with artificial intelligence can help to predict the possible severity of the exposure to this disease can help in many ways.

Using this synopsis, the application displays the list of protocols for self-quarantine and isolation varying on the exposure severity. It can also point out the potential candidates carrying the disease. Based on the severity of the exposure, the user can be guided for medical consultations. This data can be used to designate the area as hot zones to help the authorities to monitor.

Chatbot and Automation

The chatbots play an important role to guide users based on the requirements. The application chatbot answers the user if he requires any COVID tests based on the questionnaire. The 24*7 chatbot helps to reduce chaos to a huge extent. It helps the people on-demand - anytime and anywhere. It also helps in educating society with precautions and measures to control the spread of the disease and also increases the awareness to bring the community together.

The online payment also supports the cause of social distancing. It reduces the spread of the disease by fomites. The automation also helps in the medical consultations based on the severity of exposure to the virus.

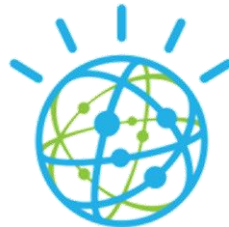
Technical Specifications

Technology used

Developed with



IBM **Cloud**



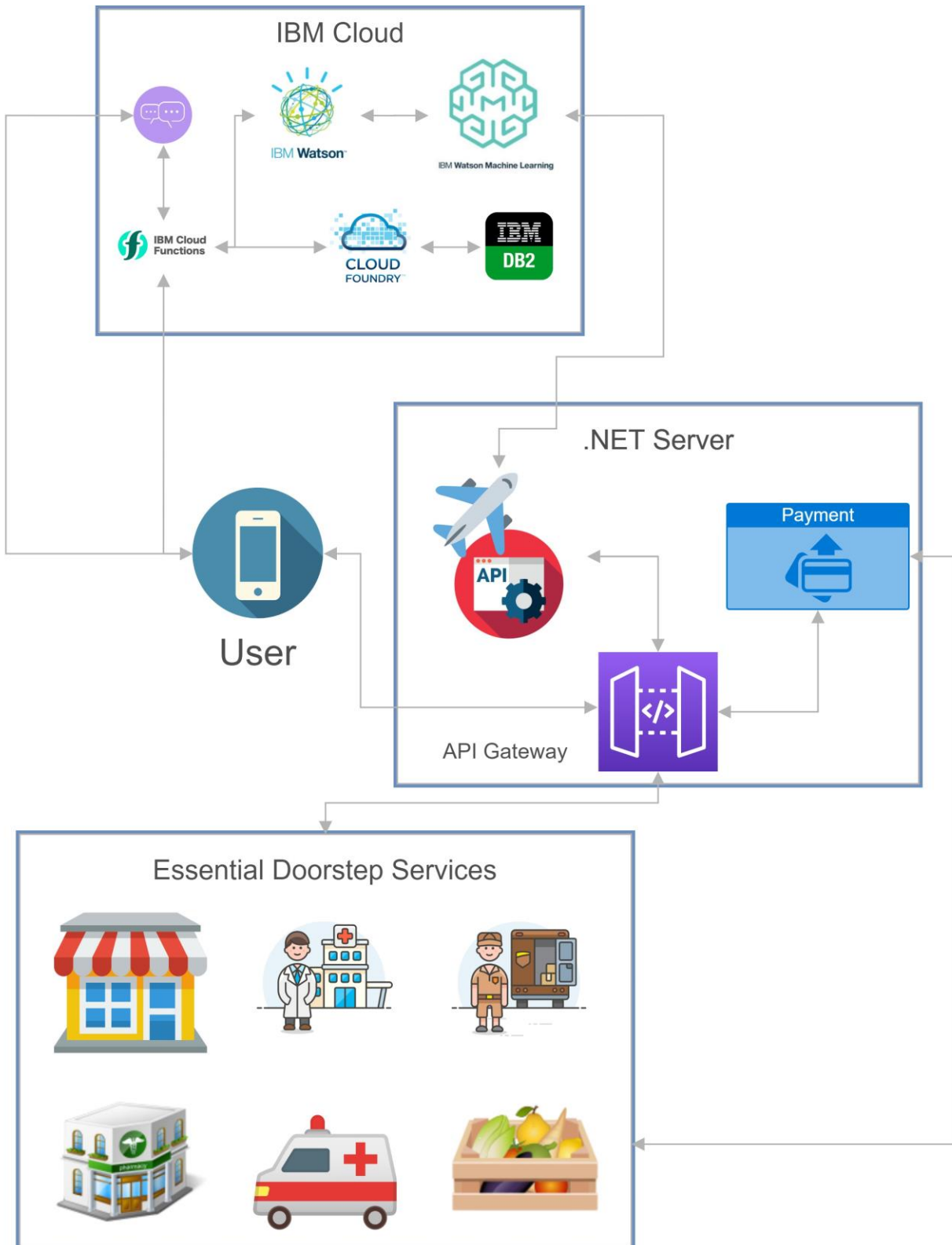
IBM **Watson**



Build Tools



Architecture Diagram



Implementation

Implementation

Application

The application screens are at the verge of completion.

Challenges

Nothing comes without challenge! For the initial stage, we have found out some challenges.

1. The challenge remains with the integration of the airlines API for retrieving the travelling details.
2. Marketing is a key strategy to increase the user base. The application will need marketing for increasing the user base.
3. The application should undergo a pilot round of testing in a small area. This pilot testing may bring out the micro-level challenges while in service.

Remediations

We are working with the initial assumption with the availability of airlines data at disposal. We are also progressing with the implementation of the chatbots to serve the customer better and reduce chaos.

Summary

This application's motto is to help the people in distress during the pandemic. If we want to survive this pandemic, the world should unite as a community. Supporting the easiness in the business running and getting people the help they require is the primary motto. We can survive the pandemic if we stand united as a community. Thank you!