

SOCIAL DISTANCING APP

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ABSTRACT

Social distancing is a recommended solution by the World Health Organization (WHO) to minimize the spread of COVID-19 in public places. The majority of governments and national health authorities have set the 2-m physical distancing as a mandatory safety measure in shopping centers, schools and other covered areas. Social distancing, also called “physical distancing,” means keeping a safe space between yourself and other people who are not from your household.

To practice social or physical distancing, stay at least 6 feet (about 2 arm lengths) from other people who are not from your household in both indoor and outdoor spaces.

Social distancing should be practiced in combination with other everyday preventive actions to reduce the spread of COVID-19, including wearing masks, avoiding touching your face with unwashed hands, and frequently washing your hands with soap and water for at least 20 seconds.

So in this project, we develop an application that maintains social distance. In this we use latitude and longitude concept to catch specific locations, and by using generate an alarm we can maintain the distance.

INTRODUCTION

The novel generation of the corona virus disease (COVID-19) was reported in late December 2019 in Wuhan, China. After only a few months, the virus was hit by the global outbreak in 2020. On May 2020 The World Health Organization (WHO) announced the situation as the pandemic. The statistics by WHO on 26 August 2020 confirms 23.8 million infected people in 200 countries. The mortality rate of the infectious virus also shows a scary number of 815,000 people. With the growing trend of patients, there is still no effective cure or available treatment for the virus. While scientists, healthcare organizations, and researchers are continuously working to produce appropriate medications or vaccines for the deadly virus, no definite success has been reported at the time of this research, and there are no certain treatments or recommendation to prevent or cure this new disease. Therefore, precautions are taken by the whole world to limit the spread of infection.

The main contribution of this research can be highlighted as follows:

This study aims to support the reduction of the corona virus spread, social distancing among individuals. This application will help people maintain physical distance and limit their social bubble.

It can also be used by various organizations that have a large number of employees to ensure that social distancing rules aren't violated unknowingly in places such as corporate offices, educational institutions, and manufacturing facilities.

Social Distancing App is an android application. It is developed for maintain the social distance. The main purpose of this application is, to prevent the spread of corona virus.

LITERATURE SURVEY

In first phase we learn Why Social Distance is important. When someone coughs or sneezes they spray small droplets from their nose or mouth which may contain the virus. If you are too close, you can breathe in the droplets, including the COVID-19 virus if the person coughing has the disease, even if they do not feel sick. The

best way to fight the spread of the virus is to stay at home, be away from your friends and socialize online. If you must go outside or meet someone in person make sure you keep a distance of at least 1 meter (about 3 feet) between yourself and anyone around. Then we will have a brief review on medical and technology-based research to have an in-depth understanding about the existing challenges Medical Research Many researchers in the medical and pharmaceutical fields are aiming at treatment of COVID-19 infectious disease; however, no definite solution has yet been found. On the other hand, controlling the spread of the virus in public places is another issue, where the AI, computer vision, and technology can step-in to help. Then we gradually transit from object detection techniques to people detection, the existing methodologies, and research gaps for people detection using AI and computer vision. Tracking Technologies Since the onset of corona virus pandemic, many countries have used technology-based solutions, to inhibit the spread of the disease For example, some of the developed countries, such as South Korea and India, use GPS data to monitor the movements of infected or suspected individuals to find any possible exposure among the healthy people. The India government uses the Aarogya Setu program to find the presence of COVID-19 patients in the adjacent region, with the help of GPS and Bluetooth. This may also help other people to maintain a safe distance from the infected person. Some law enforcement agencies use drones and surveillance cameras to detect large-scale rallies and have carried out regulatory measures to disperse the population.

IMPLEMENTATION

Corona viruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe diseases. A novel corona virus (nCoV) is a new strain that has not been previously identified in humans. Physical distancing is the practice of staying at least 6 feet away from others to avoid catching a disease such as COVID-19. Social and physical distancing measures aim to slow the spread of disease by stopping chains of transmission of COVID-19 and preventing new ones from appearing. These measures secure physical distance between people (of at least one meter), and reduce contact with contaminated surfaces, while encouraging and sustaining virtual social connection within families and communities. Maintain at least a 1-metre distance between yourself and others to reduce your risk of infection when they cough sneeze or speak. Maintain an even greater distance between yourself and others when indoors. So this application helps to maintain social distance among people.

METHODOLOGY

In this project we use simple technique that maintains social distance. Flow/working of this application is very easy. In this project, we give the alarm to user to maintain social distance. In this project we use latitude and longitude technique. Latitude and longitude are angles that uniquely define points on a sphere. Together, the angles comprise a coordinate scheme that can locate or identify geographic positions on the surfaces of planets such as the earth.

Latitude is defined with respect to an equatorial reference plane. This plane passes through the center C of the sphere, and also contains the great circle representing the equator. The latitude of a point P on the surface is defined as the angle that a straight line, passing through both P and C, subtends with respect to the equatorial plane. If P is above the reference plane, the latitude is positive (or northerly); if P is below the reference plane, the latitude is negative (or southerly). Latitude angles can range up to +90 degrees (or 90 degrees north), and down to -90 degrees (or 90 degrees south). Latitudes of +90 and -90 degrees correspond to the north and south

geographic poles on the earth, respectively. Longitude is defined in terms of meridians, which are half-circles running from pole to pole. A reference meridian, called the prime meridian, is selected, and this forms the reference by which longitudes are defined. On the earth, the prime meridian passes through Greenwich, England; for this reason it is also called the Greenwich meridian. The longitude of a point P on the surface is defined as the angle that the plane containing the meridian passing through P subtends with respect to the plane containing the prime meridian. If P is to the east of the prime meridian, the longitude is positive; if P is to the west of the prime meridian, the longitude is negative. Longitude angles can range up to +180 degrees (180 degrees east), and down to -180 degrees (180 degrees west). The +180 and -180 degree longitude meridians coincide directly opposite the prime meridian. If user crosses distance of 1 meter (3 feet) this application gives an alert message to user.

CONCLUSION

Social distancing is one of the important precautions in reducing physical contact that may lead to the spread of corona virus. Consequences of non-compliance with these guidelines will be causing the higher rates of virus transmission. Interrupt transmission of covid-19 in a population by minimizing contact between potentially infected individuals and healthy individuals, or between population groups with high rates of transmission and population groups with no or low levels of transmission, we successfully developed an application, to help maintains social distance.

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