**方案中文名称：待定**

**方案英文名称：4C-19（Credit Card Consumption for COVID-19）**

**方案中文简介：**

对于评估疑似患者数量、协助社区实施隔离、降低确诊人数、杜绝疫情扩散而言，追踪确诊患者的日常行动轨迹，并加以隔离，可以从根源上有效遏制疫情蔓延。保持隔离是有效控制疫情扩散的最佳手段，于是帮助居民排查所在社区是否有确诊患者，个人曾经是否与高危人群有接触历史，成为解决问题的突破口。因此，我们根据消费者信用卡消费记录，查询是否曾与确诊患者有过接触，并通过网站获取当地患者分布情况，通过人工智能建议个人是否需要接受检测。

**方案英文简介：**

For assessing the number of suspected patients, assisting the community to quarantine, reducing the number of confirmed patients, and stopping the spread of the pandemic, tracking the daily trajectory of confirmed patients and quarantining them can effectively keep down the spread of the pandemic from the root cause.

**方案背景中文介绍：**

截止到 2020年 4月 3日，美国 COVID-19 确诊感染人数超过 20万，而且意大利的死亡人数已经超过 13万。（此处数据随时更新）对于评估疑似患者数量、排查社区确诊人数、降低传染风险、杜绝疫情扩散而言，隔离是从根源上遏制疫情蔓延的最节省成本的办法。因此，我们需要了解确诊患者的接触史，并向公众开放确诊患者的流经场所。这样便可以让所有居民自我检查是否曾经与患者有接触史，以便进一步采取措施。

**方案背景英文介绍：**

As of April 3rd 2020, more than 200,000 COVID-19 infections had been diagnosed in U.S., and more than 130,000 deaths had occurred in Italy. For assessing the number of suspected patients, investigating the number of confirmed cases in the community, reducing the risk of infection, and stopping the spread of the pandemic, quarantine is the most cost-effective way to curb the spread at its root. Therefore, we need to know the contact history of confirmed patients and open the moving trajectory of confirmed patients to the public. This allows all residents to self-check whether they have ever had contact with the patient in order to take further measures.

**方案实现流程图：**

（注解：流程图我会在PPT里面绘制，之后生成图片在这里替换）

手机屏幕截图

描述已自动生成

**方案实现原理：**

基于欧美国家等地区用户的消费行为习惯，我们提供了这样一款解决方案：通过消费者在线下实体店的刷卡消费记录，来确认自己的接触史。充分利用商家、医院以及疾病控制中心的大数据资源，通过人工智能技术，民众可以自行检查是否接触过有潜在传染风险的疑似患者，以便快速采取观察、检测、隔离和就诊等措施。

**线下刷卡消费就能记录行为轨迹**

当消费者前往商场、超市、加油站等场所消费时，需要使用信用卡付款。此时，商家交易系统可以充当一种能够记录居民外出行为轨迹的交易记录系统。这个交易记录系统包含了交易地点、交易时间、交易卡号、用户姓名等信息。商家可以将最近 3～5天的市民消费记录上传至区块链网络。从而可以追踪并溯源某患者（比如患者 B）最近 N 天的活动轨迹。

**输入卡号就可以查询个人接触史**

由于商家已经将最近 3～5天的消费记录上传至区块链网络，因此，居民可以登陆该网络，输入个人信用卡号后四位，就能得知自己最近几天的出行行动轨迹是否与确诊患者有交集。比如，居民可以得知是否有患者也曾在同一时间段与自己在同一个场所停留，从而进一步断定自己是否曾与患者有过接触历史。

**查看社区周围“疫情分布地图”**

疫情期间，居民登陆该网络，通过我们提供的可视化数据和图表，来了解自己所在地区患者的真实分布信息，包括患者所在地理位置信息、患者与自己的距离、患者个人行踪。打通的商家、医院和疾控中心数据系统，方便市民自行查询最近 3～5天内所有和患者 B 的接触史。这样市民就可以知道自己是否曾经也在相同时间与患者 B 身处同一场合，还能了解某一区域的传染风险。

如果居民查询到曾经与患者 B 有接触史，并经过自我检测后出现发热、咳嗽、胸闷等一些列新冠病毒症状，则需要通过该网络提交个人症状信息至该大数据系统，由于已经打通商家、医院和疾控中心的医疗大数据，因此，当居民提交个人发热信息时，可以实时更新数据系统。

**构建患者大数据基础**

医院可以将“确诊患者 B”的信息上传至区块链系统。这些患者数据可以作为不可篡改的医疗大数据源，尤其是现在全球已经有超过 80万人确诊，这是一个庞大的基础数据。

**人工智能帮助决策是否需要检测**

根据居民过往的行为轨迹，还有所在当地社区的患者分布情况，网站会通过人工智能技术协助居民决策是否需要检测、隔离抑或是前往医院救治。

**所用关键技术：**

AI

区块链

**Mission Name:** Credit Card Consumption for COIVD-19

**Submission track:** COVID-19

**Short description:** Tracing people by credit card to protect people from covid-19

**Long description:**

**方案实现原理：**

**Scheme implementation principle:**

基于欧美国家等地区用户的消费行为习惯，我们提供了这样一款解决方案：通过消费者在线下实体店的刷卡消费记录，来确认自己的接触史。充分利用商家、医院以及疾病控制中心的大数据资源，通过人工智能技术，民众可以自行检查是否接触过有潜在传染风险的疑似患者，以便快速采取观察、检测、隔离和就诊等措施。

Based on the consumption habits of users in Europe and the United States, we provide a solution. Confirm residents' contact history through the credit card consumption records of offline stores. Make full use of big data resources of businesses, hospitals and CDCs. Through Artificial Intelligence technology, people can check whether they have contacted suspected patients with potential infection risk, so as to quickly take observation, detection, quarantine and treatment measures.

**线下刷卡消费就能记录行为轨迹**

**Offline credit card consumption can record the behavior track**

当消费者前往商场、超市、加油站等场所消费时，需要使用信用卡付款。此时，商家交易系统可以充当一种能够记录居民外出行为轨迹的交易记录系统。这个交易记录系统包含了交易地点、交易时间、交易卡号、用户姓名等信息。商家可以将最近 3～5天的市民消费记录上传至区块链网络。从而可以追踪并溯源某患者（比如患者 B）最近 N 天的活动轨迹。

When consumers go to shopping malls, supermarkets, gas stations and other places for consumption, they need to use credit cards for payment. Meanwhile, the business transaction system can be used as a transaction recording system which can record the track of residents' outdoor behavior. The transaction record system includes the location, time, card number, user name and other information. Businesses can upload the consumption records of citizens in the last 3-5 days to the blockchain network. It can track and trace the activity trajectory of a patient (such as patient B) in the last N days.

**输入卡号就可以查询个人接触史**

**Enter the card number to check personal contact history**

由于商家已经将最近 3～5天的消费记录上传至区块链网络，因此，居民可以登陆该网络，输入个人信用卡号后四位，就能得知自己最近几天的出行行动轨迹是否与确诊患者有交集。比如，居民可以得知是否有患者也曾在同一时间段与自己在同一个场所停留，从而进一步断定自己是否曾与患者有过接触历史。

Since the merchants have uploaded the consumption records of the last 3-5 days to the blockchain network, residents can log in to the network and input the last four digits of their personal credit card number to know whether their outdoor trajectory in recent days intersects with the confirmed patients. For example, residents can know whether there are patients who have stayed in the same place with themselves at the same time, so as to further determine whether they have had contact history with patients.

**查看社区周围“疫情分布地图”**

**View the "epidemic distribution map" around the community**

疫情期间，居民登陆该网络，通过我们提供的可视化数据和图表，来了解自己所在地区患者的真实分布信息，包括患者所在地理位置信息、患者与自己的距离、患者个人行踪。打通的商家、医院和疾控中心数据系统，方便市民自行查询最近 3～5天内所有和患者 B 的接触史。这样市民就可以知道自己是否曾经也在相同时间与患者 B 身处同一场合，还能了解某一区域的传染风险。

如果居民查询到曾经与患者 B 有接触史，并经过自我检测后出现发热、咳嗽、胸闷等一些列新冠病毒症状，则需要通过该网络提交个人症状信息至该大数据系统，由于已经打通商家、医院和疾控中心的医疗大数据，因此，当居民提交个人发热信息时，可以实时更新数据系统。

During the pandemic, residents log on to the network, through the visual data and charts we provide, to understand the real-time distribution information of patients in their own area, including the geographic location information of patients, the distance between patients and themselves, and the personal whereabouts of patients. Through the data system of businesses, hospitals and CDCs, it is convenient for citizens to query all contact histories with patient B within the last 3-5 days. In this way, the public can know whether they have ever been in the same situation with patient B at the same time, and also understand the risk of infection in a certain area.

If residents find out that they have ever had a relationship with patient B, and there is a history of contact, and some new coronavirus symptoms such as fever, cough, chest distress appear after self-test, so it is necessary to submit personal symptom information to the big data system through the network. Because the medical big data of businesses, hospitals and CDCs have been connected, when residents submit personal fever information, the data system can be updated in real time.

**构建患者大数据基础**

**Building patient big data base**

医院可以将“确诊患者 B”的信息上传至区块链系统。这些患者数据可以作为不可篡改的医疗大数据源，尤其是现在全球已经有超过 80万人确诊，这是一个庞大的基础数据。

The hospital can upload the information of "confirmed patient B" to the blockchain system. These patient data can be used as a big medical data source that can’t be tampered with, especially now more than 2 million people have been diagnosed in the world, which is a huge basic data.

**人工智能帮助决策是否需要检测**

**Artificial intelligence can help make decision whether need to be detected**

根据居民过往的行为轨迹，还有所在当地社区的患者分布情况，网站会通过人工智能技术协助居民决策是否需要检测、隔离抑或是前往医院救治。

According to the past behavior trajectory of residents and the distribution of patients in the local community, the website will help residents to decide whether to detect, quarantine or go to the hospital for treatment through artificial intelligence technology.

**Solution roadmap:**

We hope this project can contribute to MiPasa, WHO or together with other organization as sharing data for COVID-19 globally.

**Link to publicly accessible GitHub repository:**

**Link to a three-minute demo video:**

**List of one or more IBM Cloud Services or IBM Systems used in the solution:**手机屏幕的截图

描述已自动生成

**IBP**

1. **Your email address and the email addresses of up to four additional team members-**  
   Each team member needs to accept the [Participation Agreement](https://callforcode.org/participation-agreement). You can only be part of one team of up to 5 members, and your team can only submit one application to each track.