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**WEBD-1295-Information System**

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**COMP-1295 – Information Systems**

**Module 1 Introduction to Information Systems Competency**

Given the following scenario:   
Two leading universities are trying to develop apps that listen to users' coughs and voices to predict whether they are infected with the coronavirus.  But, the two projects are taking different approaches to privacy.

The Cambridge University effort seeks to keep volunteers anonymous, but says this is currently limiting its work.  Meanwhile, a team at Carnegie Mellon University says it is critical that users register themselves, but it has had to temporarily go offline.  The two initiatives are independent of one another. Both rely on machine learning, a form of artificial intelligence in which computers analyze large amounts of data to find patterns that can be used to solve problems.  In this case, the goal is to be able to distinguish the Covid-19 from other illnesses including the flu.  Both teams acknowledge that the resulting software would not replace the need for other medical tests.

Cambridge University launched the Covid-19 Sounds project last Tuesday.  Members of the public are being invited to breathe and cough into a computer's microphone, as well as provide details of their age, gender, approximate location, and whether they have recently tested positive for the coronavirus. They are then asked to read the following phrase three times: "I hope my data can help to manage the virus pandemic."  At present, the project is limited to collecting samples via a website, rather than a smartphone app.  This is in part because Apple and Google are restricting who can publish coronavirus-related apps to their stores, and this effort has yet to qualify.  "An app could be better because it can go back to the volunteers on following days and ask them to make recordings again," explains Prof Pietro Cicuta, another team member.  However, this is not possible to do via the website, he adds, without compromising users' anonymity.

The Carnegie Mellon team's Covid Voice Detector is built on the foundations of earlier voice-profiling work done at the Pittsburgh-based university.  It briefly went live on 30 March. Users were asked to cough, record vowel sounds and recite the alphabet, as well as provide details about themselves.  At the end of the process, the tool displayed an indication of how likely they were to have Covid-19.  But the researchers realized a rethink was required.  "If a system tells a person who has contracted Covid-19 that they don't have it, it may kill that person. "And if it tells a healthy person they have it, and they go off to be tested, they may use up precious resources that are limited.  So, we have very little room for error either way, and are deliberating on how to present the results so that these risks vanish."

1.Find and classify potential problems according to the type of problems IS developers confront? (6 marks)

A: Whether a system is delivered or not, many things can go wrong.

**1. Quality Problem**

In this case, several quality issues arose, including incorrect requirements analysis and failure to align the project with strategy.

The Carnegie Mellon project tool indicated how likely they were to have Covid-19, but with significant risk. If some data is not sampled accurately, the user will receive an incorrect diagnosis. They did not consider that when the project was designed, so it had to go offline temporarily; they are deliberating on how to present the results so that these risks vanish.

For Cambridge University, inadequate data resources bring down productivity and performance of the project and impact the overall result, which also causes quality problems.

In the process, developers face many quality issues. They must analyze the requirements correctly, keep the data accurate, and show results consistent with the strategy.

**2. Installation & Operation**

In this case, they also encountered some problems with inaccurate data due to platform/operation issues.

For example, Cambridge University only runs its project on its website to keep volunteers anonymous. As Apple and Google are restricting who can publish coronavirus-related apps to their stores, and this effort has yet to qualify, the project is limited to collecting samples via a website rather than a smartphone app.

For this reason, if users enter incorrect data, they cannot update a secondary collection via the website, eventually leading to inaccurate data collection.

**3. Productivity Problem**

At last, they also encountered some Productivity Problems, like implementation not being feasible and poor project control.

That means the implementation not feasible: they may not know at the start of the project. There is also a reason that the lack of management experience leads to mismanagement. (end)

2.What can be extended from this particular scenario that may have more general value when developing IS? (4 marks)

The Information System is highly complex, vast, and dynamic. Software development is an integral part of the system. It is directly influenced by several factors, including growing complexities, market conditions, changing technology trends as well as increasing software development challenges.

1. Low productivity.

Demands for building new or improved IS have increased faster than our ability to develop them. Some reasons are the increasing software development cost, the limited personnel and funding supply, and only moderate productivity improvements.

2. Limited infrastructure/resources

It could mean a lack of high-performance development tools, powerful computing platforms, inefficient data storage architectures, or improper networks and connectivity. Such hindrances bring down the productivity and performance of software development teams and impact the overall result.

3. Time limitations conflict with doing the job properly

Budget and time constraints often conflict with doing the job correctly. Developers work under pressure and strive to complete project requirements within strict and scanty timelines. Due to lack of sufficient time, it is likely that not enough sample size will be obtained, leading to failure.

Above all, technologies, development approaches, and business needs all constantly change. It is up to developers to move with The Times and **overcome these challenges**.