

TJ: Hi, I am TJ. In this episode, we are going to talk about social distancing enablement at the workplace. As the workforce prepares to return to physical offices or commercial spaces, enterprises are in the search of solutions that can be the most effective in helping employees or users to adhere to the defined rules or policies of maintaining a safe physical distance from one another.

I am a Product Manager at the Digital Workplace services here at HCL Technologies, and I will try to do justice to this topic by sharing the thought process and evaluation criteria that we opted for while shortlisting the various types of products that now help many of our customers create a safe physical work environment for the returning workforce.

We have a series of questions that were sent in by our listeners and I will try to answer as many as the time permits. If you want to send in your queries for us to answer in the subsequent episodes, please do so by writing to us at DWP@HCL.com

Let us start with the first question.

TJ: What are the different ways of enabling social distancing at the workplace?

In our research, we saw many solutions that helped in achieving the same end result – which is to make sure that the users maintain a safe distance from one another and on breach of this policy, raise an alarm or notify the concerned stake holders. The way in which each of these products enabled the same was drastically different. The ones that stood out, can be placed into 3 categories:

- First being mobile applications that leveraged the GPS on mobile devices or triangulation of signals from routers that these devices are connected to. So, if all the users install such an application on their mobile devices and turn their Wi-Fi, and Bluetooth in some cases, the application would be able to record social distancing breaches and even send notifications or alerts to users.
- The second type of solutions were based on smart wearables. These could be smart alternatives to wearables that the users are already accustomed to putting on every day or new types of devices. There are smart watches, bands, ID badge holders or devices that can be worn on the waist belt or safety helmets. The point that stood out about these was that they had no dependency on a certain feature or setting being turned on by the user. They worked independently and relied upon Bluetooth beacons or GSM SIM cards for connectivity.
- The third type of solutions were based on computer vision. Basically, taking a live video feed coming in from any camera source like kiosks or CCTV camera, and then analyzing that video in real time to calculate the distance between the individuals in that video frame.

All these products differed massively when compared on the basis of accuracy, data privacy, reliability and the amount of change needed in the user behavior to ensure a high adoption rate.

I hope that answers this question. I feel the following questions will give us ample opportunity to elaborate more on each of these categories.

TJ: Next question, which is the most important factor to look at while deciding on a social distancing solution for confined spaces?

This is easy. Precision is the number one criterion. If the solution is not able to accurately track the risky close encounters, in which the safe distance is breached, you might end up in a situation where you are trying your best to contain an infection, yet, somehow users that have no history of coming in contact with the infected users are mysteriously falling ill. Having this risk at the back of your mind and living with it is a dangerous choice to make.

Other important factor, which mostly get overlooked, is the user adoption or how strictly the solution is implemented. Setting up procedures and policies is the easy part. If the users are presented with a solution which requires them to take certain actions on which the effectiveness of the solution depends upon, in reality the chances of some users forgetting to activate those settings do exist. Also, if it is a device that needs to be carried around, like a mobile phone or a smart wearable, it is better to rely upon something that you will always carry around with yourself. The safety chain is as strong as

the weakest link. Ideally, the solution should require no or minimal change in user behavior and should automatically get activated as the users enter the designated working zone.

So, precision and user adoption are both at the top in the list of factors to check when deciding on a social distancing solution. After this, an easy way to get real-time updates and report generation to contain critical incidents adds to the peace of mind of the stakeholders.

Unlike traditional IT solutions, cost comes much lower on the list, as we recommend not cutting corners. It is difficult to calculate the ROI on these but if you compare them to the potential losses in case of an uncontrolled outbreak within office premises, they all seem great value for money. In some cases, it might make more sense to not open up the offices rather than putting the health of the workforce at risk.

TJ: Next question is, which solution, for social distancing enablement, is the safest in terms of data privacy?

This is a tricky one. Every solution, that we looked at, assured data privacy safeguards. But the companies that have to implement these solutions at their premises generally look at the possibilities and probability of data breaches rather than assurances.

The solutions that are based on mobile applications will always be under scrutiny for the same. Even though the intention is to only capture the close interactions, there are always concerns of live tracking of movement. Moreover, even if the management is convinced, the users themselves may find themselves in a position where they have doubts based on personal research and may end up switching off the app altogether. Not a good scenario under any circumstance.

For computer vision powered solutions to work, they have to rely upon face recognition technology. There have been rising concerns against automated face recognition lately. Having this solution without identifiable information would be of no help. The system won't know which users to alert and there would be no data to go back to for contact tracing.

With smart wearables, there is an opportunity to address all concerns around data privacy. If we can assign a wearable to each user in a manner that the devices only recognize other devices using serial numbers and have a correlation database, hosted somewhere safely in a reliable ITSM tool, the overall workflow can be made airtight. Then, if we opt for wearables that sync data using Bluetooth beacons rather than GSM sim cards, the concerns around live movement tracking also go away.

So, in terms of data privacy concerns, according to our research, the smart wearables that only register close encounters and sync data via Bluetooth beacons using safe corporate networks, work best for companies who take data privacy very seriously.

TJ: Moving to the next question, which would be the last one for this episode. What are some of the standout features that made any one solution really strong as compared to others?

It is hard to advocate a single solution as every environment is unique. A solution that might work wonders for a manufacturing plant, might not be as effective if implemented on an office floor.

It's important to understand the behavior of the users and the circumstances under which they are most likely to be most productive. That is a good starting point to understand which solutions would meet the needs. This is a good opportunity to compare the products in different categories in basis of some factors that haven't been covered in the previous questions.

So, we have already talked about the precision, adoption and data privacy aspects. Let's talk about the effectiveness in real world scenarios. Ideally, the implemented solution should be able to do three things very efficiently:

- The first thing being it should be able to identify risky encounters among two or multiple users.
- It should be able to sync that information with a central database for a multi-level contact tracing exercise.
- And thirdly, it should be able to alert the users as soon as the safe distance is breached so that they can take corrective measure immediately. The delay in doing this increases the health risks for the users.

Assuming all shortlisted solutions are equally good in accomplishing the first two things, the third point, which is how soon can the user be alerted, becomes the decision point.

Both the mobile application and computer vision-based solutions would rely upon alerts and notifications being sent using SMS, email or push notifications. These immediately become ineffective if the mobile devices are on silent or the user misses the notification. Also, the time taken to take the mobile device out of the pocket and checking the notification can add to the delay in acknowledgement. Of course, you can have customized alert sounds or vibrations to decrease the reaction time to some extent.

Smart wearables, especially the ones visible in plain sight, like the smart ID badge holders, come with a bright LED on them. The colors of this LED signify the current status. Green for safe, amber for watch out and red for immediate risk. Apart from immediately alerting the user to take corrective action even before an incident occurs, what works in this solution type's favor is that the user can also be alerted by looking at the wearable worn by the user he is interacting with. This helps save some precious seconds that may end up being the difference between getting infected or not and also lower the quantity of transmission in worst case scenarios.

Let's be clear about something. Not every close contact will result in the transmission of the virus. But the only way to decrease the probability of that happening is to decrease the number of close contacts. Also, knowing that they are being safeguarded using the best possible solutions, the users also experience a peace of mind, which is a valuable asset in these times.

I hope this helps you understand the various choices out there to make your workplaces safe and secure. Do check out the SafeSense solution pack powered by HCL Fluid Workplace framework – a set of precision focused contactless solutions that enable enterprises to ensure a safe and healthy return of their workforce to offices. And once you are there, check out DistSense, which is HCL's smart wearables based social distancing enablement solution.

I thank our listeners for joining in. We want to hear from you. We need your feedback and suggestions for future topics. You can send us your questions at DWP@HCL.com. Comment, share, recommend and subscribe. See you all in the next one. Stay safe.