

# Mobile Office Pods

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**Abstract**—This paper proposes a new type of remote working facility called Mobile Office Pods, which are located in residential areas for people to work from a location near home. Unlike other remote/mobile working facilities such as home offices and hot desks, Mobile Office Pods combine the benefits of the two and provide better facilities and environments which enhance employees' productivity. We provide detail requirements to setup Mobile Offices Pods and analyze the significant benefits for companies, employees, real estate owners and government/local authorities.

**Index Terms**—Flexible Work Arrangements, Remote Working, Mobile Office, Cost Effective.

## I. INTRODUCTION

WITH the rapid development of technology, the wide spread of terminal equipments and the availability of high quality internet infrastructures, nowadays more and more people can work from a remote place rather than traditional offices. A remote place can either be home, or a library, or even a coffee shop. Travel time can be significantly reduced if the employee can work from home or from a place near home, plus there are huge benefits to relieve the pressure on the city's transportation system during rush hours if a considerable amount of people are working from places near home instead of going to offices. As more and more companies are globalized, work is now distributed in terms of time and location [1]. Many employees from multinational corporations have to work in different timezones to collaborate with colleagues or partners from other continents. A person may have a 9 p.m. call in Singapore, with a colleague at 6:30 p.m. in India, a colleague at 1 p.m. in London and a colleague at 9 a.m. in the US. It will be very inconvenient for an employee to always make calls from the office outside usual office hours of his/her timezone. Hence working from home is a much better choice and more and more companies are supporting this working mode now [2]. However, not everybody has the luxury of having an office at home due to lack of space or equipments. Also the employee may be disturbed by other family members at home and cannot concentrate on work.

There is another concept called Hot desking, which are desks located in traditional offices to allow multiple workers using a single physical work station during different time periods [3]. It provides the office facilities for employees without a dedicated space for everyone, so it is cost effective. However, there is no booking system for mobile employees to secure a desk at specific time slots which results in over/under usage.

In this paper we propose a new remote working concept called Mobile Office Pods, which are individual office rooms located at residential areas, and equipped with all the facilities that an employee may need to conduct his/her work as

if he/she is in office. It combines the advantages of home office and hot desking. Multiple companies can participate in the program so that the pods can support their intranet, and their employees can use their credentials to login and use the facilities in the pods whenever they want. What they need is to book the pods online and pay the booking fees. This will provide great flexibility for employees while relieve the burden for them to buy equipments and set up the environments at home.

## II. RELATED WORKS

There are a few studies on how flat the world is now and how globalization has changed the way people work. A lot of top multinational corporations, especially IT companies (e.g., Google, Facebook, Microsoft, SAP, Hewlett-Packard, Cisco, IBM, Netflix, etc.) support the "working from home" policy [2]. It is reported that 40% workers in the US today believe that remote working increases productivity and this percentage is expected to rise to 49% in the future [4]. Additionally, more than 60% employees prefer to be measured by the quality of their work rather than time spent in the office [4]. Hence working from a remote location and during non-standard hours has a strong demand by employees now.

## III. LIMITATIONS OF CURRENT SOLUTIONS

### A. Limitations of home office

As from the related works we can see home is a very good remote location for employees to work from, but it still has some limitations.

#### 1) Disturbance at home

The employee may be distracted by other family members at home, e.g., TV noise from living room, noise of kids playing and probably housework.

#### 2) Lack of equipments and space

Not everybody has a home big enough to have a separate room for study and work. Additionally, it is expensive to prepare all the necessary equipments at home, e.g., laptop/desktop, phone, big monitor for video conference, printer, internet with high speed, etc. Sometimes the internet at home is not very fast and stable, which may affect the productivity of the employee. Also it is expensive to buy big monitors by employees themselves for video conference. Additionally, as the employee will be using mobile phone at home, he/she might not be available through company landline number, which is usually used by the clients and co-workers. Lastly, the corporate intranet may not be available at home office, which results in no access to some internal resources.

#### 3) No networking

As there is no social interaction at home, it can be quite boring to work alone in home office [5].

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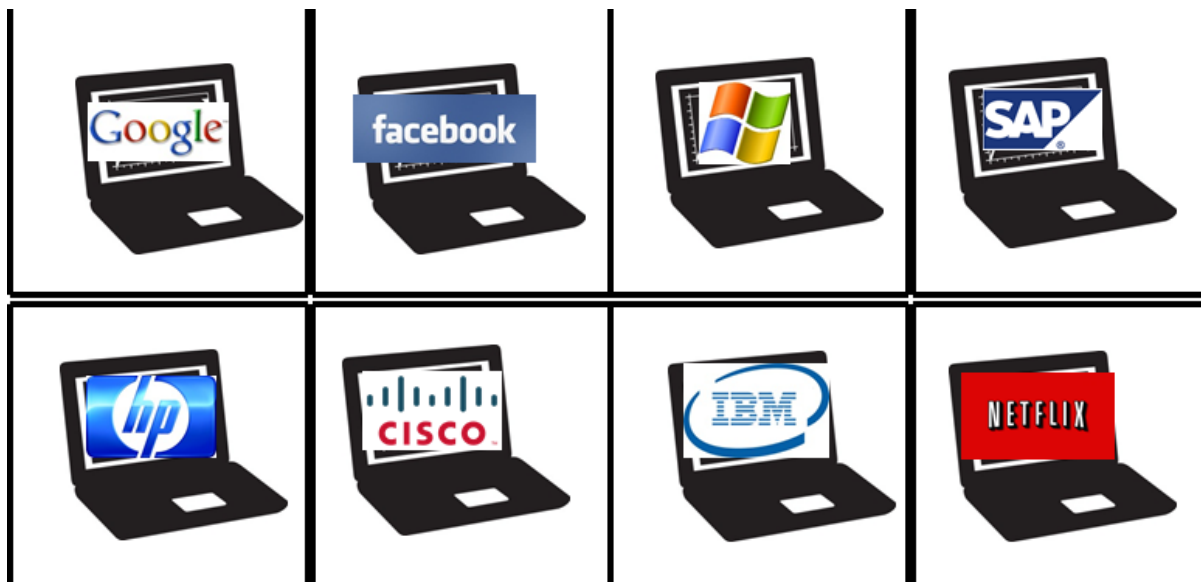


Fig. 1. Example of a group of Mobile Office Pods that support multiple companies



Fig. 2. Example of distribution of Mobile Office Pods in Singapore

### B. Limitations of hot desking

- 1) Under/over utilization  
Hot desks are located in the office no matter if they are used or not. Heating, ventilation and air conditioning are anyway provided to those areas even they are not in use. As there is no booking system to secure a desk, there may be cases when there is no available hot desk and some mobile employees cannot work properly.
- 2) Difficulty in tracking usage  
As hot desks are mobile and anonymous, it is difficult to track by who the desks are used and how long they are used. Also it is difficult to track the mobile employees' working hours.

### IV. PROPOSED SOLUTION

We propose a solution called Mobile Office Pods, which is a combination of both home office and hot desking, making use of their advantages and overcoming the limitations. Mobile Office Pods should have the following setups:

- 1) Location and distribution of pods  
Pods are setup in groups so the maintenance can be done easily. For example, we have 8 pods in one group and 8 companies are participating in the program. An example of a group of pods is shown in Fig. 1. Note that all pods should be configured for all companies so that employees from any of the 8 companies can log into any of the 8 pods that is available. According to

Singapore's population distribution, we can distribute Mobile Office Pods shown in Fig. 2 as an example. A pantry can also be setup at the common area among the pods in a group that people from different companies can social with each other.

2) Configuration of each pod

Every pod is an individual room where all noise from outside is blocked so it is good for the employee to concentrate on work. He/she can also talk loud in phone calls and conferences without disturbing others.

3) 24 x 7 Availability

Mobile Office Pods should be available 24 hours a day and 7 days a week for employees to access to facilitate the non-standard working hour requirements. Employees should be able to book the room through an online booking system and the availability of the pods should be visible to the users.

4) Security

The pods should be physically secure so that only the person who has booked the room can access it during the specified period in the booking system. The employee can only use his/her company card to enter the pod, and all the login activities can be tracked. The pod should also be safe from theft, break-in, and impersonation.

5) Connectivity

Intranet should be available in the pods for the participating companies, and once the employee logs in the pod, the corresponding company's intranet should be available immediately. With the direct connection to corporate intranet, internal resources such as company phonebook, shared folders and devices should be accessible. Connection should be as fast as on premise access, which makes it a better work environment than home office. The intranet should be authenticated and all the information transferred is encrypted.

6) Communication

Office landline can be setup at the pods when the employee login the intranet and calls can be made as if he/she is in the office. Tele-conference equipments are also available in the pods, including big TV screens, which are quite expensive and difficult to setup at home. Facilities like printers and fax machines are also provided in each pod.

7) Hot desking equivalent

The environment inside the pods should look like the hot desks in an ordinary office. There should be heating, ventilation, and air conditioning systems working as well as comfortable desks and chairs in the pods. Employees can meet up customers in the pods if it is convenient for both sides.

## V. DISCUSSION

There are a lot of advantages of Mobile Office Pods over home offices and hot desks for different parties.

### A. Companies

- 1) With the use of Mobile Office Pods, there is less space requirement for the office. For example, there can be less hot desks configured in the office as mobile

employees can work remotely from Mobile Office Pods.

- 2) As there are fewer desks needed in the office, fewer facilities are needed in the office, which reduces the management costs for the facilities.
- 3) Compared to hot desks, it is easier to track the usage of Mobile Office Pods according to the login/logoff timestamps, and working hours can also be automatically logged.
- 4) With all data encrypted through corporate intranet, Mobile Office Pods are also safer than home offices.

### B. Employees

- 1) The most important benefit for the employees is the significant reduction of their commute time to work. For big cities like Singapore, it's very common for a commuter to travel 45 minutes to 1 hour to office, and this can be reduced to 5 to 10 minutes if the Mobile Office Pods are within near vicinity. Employees can save a lot of energy from commuting to the pods, so they are more likely to be productive at work.
- 2) As there is no distraction from others, the employee can concentrate more on work when working in Mobile Office Pods than in home office and hot desks, producing more results.
- 3) Employees are more willing to work in flexible hours according to the companies needs provided Mobile Office Pods are near their home and no taxi claims are needed.
- 4) Although there may be costs to use the pods, it is still much cheaper than setting up full facilities at home.
- 5) As the pods can be used by employees from any of the participating companies, people can network with each other, which provides better work/life balance for them. A common pantry shared among the pods in the same group is a good location for socializing.

### C. Real estate owners

- 1) With more and more people doing their shopping online now, it's more difficult than before for the real estate owners to get a good rental for their commercial properties. As there is office space needed for building Mobile Office Pods, it may provide good deals for real estate owners at residential areas.
- 2) Human traffic can also be increased to the areas the Mobile Office Pods are located thus bringing business to shops nearby.

### D. Government/Local Authorities

- 1) Mobile Office Pods can help the government and local authorities for the urban management of the cities by redirecting people from crowded areas (usually the ordinary offices are located at the heart of the city) to less crowded areas (residential areas).
- 2) Now one of the biggest complains received by governments of big cities is that the transportation systems are too crowded. Mobile Office Pods can also ease the strains on the public transport during rush hours, especially for big cities with huge population, e.g., Singapore, Hong Kong, Seoul, Beijing, Shanghai, etc.

## VI. CONCLUSION

In this paper we propose a new concept of remote working. Companies can participate in the setup of Mobile Office Pods, which locate at residential areas, and employees of those companies can book and log into any of the pods and work remotely from there. Full office facilities as well as the companies' intranet connections are provided in the pods so employees can work as if they are in office. Core requirements are space, security, and communication capabilities when implementing Mobile Office Pods. There are significant benefits for companies, employees, real estate owners, and government/local authorities. Future works can be focused on how much cost will be incurred to build one group of Mobile Office Pods, how to attract companies to participate in this program, and how much should be charged for using the pods on hourly basis.

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