Virtual Smart Phone

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Abstract:- Traditional personal computer are preferred less compared to smartphone in daily life because smartphone have become ubiquitous. Sometimes due to hardware differences of smartphones varies immensely and sometimes it cannot meet the expectations of users. Hence virtual smartphone came into picture which consists of tiny projectors, Camera, Speaker, mike and cloud computing to connect both the physical and virtual world. There are malicious application which can harm the smartphone and cause the local private information to be leaked which can cause huge losses. This paper is about Virtual Smartphone Platform shortly termed as VSP. It introduces virtual smartphone deployed in cloud in physical smartphone to increase its capability. Virtual smartphone communication can be done with help of natural hand gesture. Virtual smartphone end physical dependency of mobile phone. Virtual smartphone can be operated remotely with the help of thin client of VSP and overcomes the limitations of physical mobile devices. Virtual smartphone with the help of radio waves and tiny projectors and cloud computing technology make virtual image of our smartphone available on our palm through which user can control its smartphone virtually without physical touch. Virtual image of smartphone can be created through scanners and made available on user palm through tiny projectors and can be used to make call and also for watching movies.

Keywords:- *ubiquitous, natural hand gesture, physical dependency, virtual image, remotely, physical touch.*

I. INTRODUCTION

With the portability, connectivity and increasing popularity of smart mobile device, smartphone has become a better choice for general work and entertainment than laptop and desktop computer. The development of multi-touch and gesture based interactions increase due to advancement of novel sensing and display technologies. Mobile devices become more powerful and some application are developed with high resource consumption like 3D games which may not function well with low-end devices. Users may retrieve information directly with the help of natural hand gestures. To connect to the digital world in the controlled environment users may use multi-touch and gesture based interaction. Since mobile and small mobile devices are not compactable with gesture and multi-touch based interactive systems hence fail to provide experience of full-sized gesture systems. As mobile and other small mobile devices are not gestural and multi-touch based interactive systems hence information still remains on screens and projectors. Virtual smartphone replace the physical mobile phone device with the virtual image which help user to connect to other devices over the network. Virtual smartphone enables users to connect to their friends and relatives and also the digital world.

II. ADVANTAGES OVER MOBILE DEVICE

This application provides users the flexibility to access and use their personal information on their smartphone from anywhere from any internet-enabled device and at any time. The application is highly secure too- users will have their own account created with a unique username and password. Also in case the user losses their smartphone they will not lose all the data available on their mobile device. All that users need to do is to sync-up their device with the server and download all their information into new mobile device. Variety of multi-touch interaction and mobile devices allow user to acquire user interface components using natural hand gestures. The digital aspect of our lives becomes more interactive, intuitive and natural because of virtual smartphone. Virtual smartphone allows users to access and use real-time mobile content from any place from any internet enabled device.

III. OBJECTIVE

The objective of virtual smartphone is to provide access to digital devices virtually with the help of gesture based interaction on the user palm or hand. Virtual smartphone provides transfer of data from user to user or from user to digital devices without need of any platform or platform dependency.

The communication between users and digital devices become more tangible and interactive because of virtual smartphone.

Data transfer is done in two ways in virtual smartphone.
- With the help of GSM technology voice communication between the users without any physical cellular phone.
- Data transfer between users with the help of internet/intranet.

## IV. WORKING OF VIRTUAL SMARTPHONE

Working of virtual smartphone consists of 5 main steps that is enable and authenticate VSP, Make call, Receive Call, Capture Image/Video, Copying Data and paste data to other VSP and digital devices.

V. ENABLING VSP

Virtual smartphone being a wearable device can be enable and disable with the help of power button. As the virtual smartphone is enabled an icon appears on user palm or arm which shows status of user. The status of user can be sign in or not. If the status of user is not login then user can login by clicking the icon. Virtual smartphone users can be change with the help of authentication methods like username and password, Face recognition, picture selection, palm line selection, secret sign or pattern and finger print selection with the help of which user can login successfully.

VI. MAKE CALL

User can make call to its friends and relatives once VSP is enabled. Using virtual key or using voice recognition system user can dial number and make call. Call is established using VSP two methods.
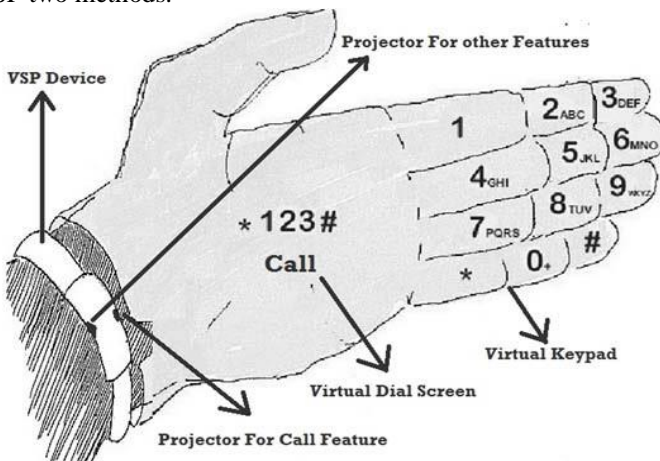

A. Call established using SIM

SIM stands for Subscriber Identity Module. In VSP its micro SIM with the help of which device established call using GSM/CDMA (Global System for Mobile Communications/Code division multiple access) technology.

B. Call using VOIP

Virtual smartphone connects to internet/intranet using WIFI and mobile data option using which user can make call using Voice over IP. With the help of Voice over IP user is able to make call to other users as well as other GSM and digital devices.
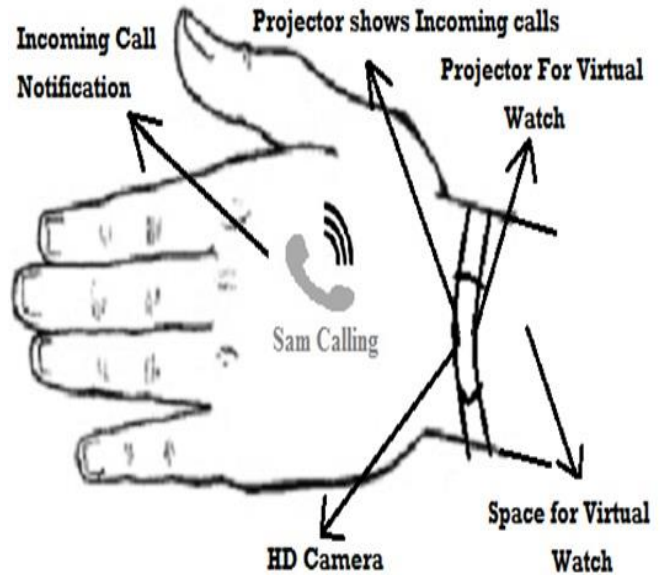
C. Receive call

The notification of digital device of incoming call or a virtual smartphone user called by other virtual smartphone user is shown to the user.

The notification of incoming call is shown based on user selection of profile if user is in vibrate mode small vibrator motor shows incoming call by vibration and also identity of calling user is shown on backside of palm using projector of high density. Sound mode gives notification of calling user by ring tone and shows identity of calling user on backside of palm. The silent mode indicates only calling user identity on back side of palm. The user can touch or swipe the incoming call icon to attend call. The Bluetooth headset or wired headset is connected to virtual smartphone using 3.0 connector with help of which user can speak with other user. With the help of VSP device speaker and mice user can receive call directly.

D. Capture Image/Video

Virtual smartphone uses high quality camera to capture high quality images by click of an image button or by using gestures. After capturing image it shows image on user hand using VSP system. Video can also be shot using same process just change camera mode to video mode. While capturing

image/video user can also zoom in or zoom out using hand gesture.

E. Copy Data

Data can be copied from one device to another device using touch gesture.

VII.   ADDITIONAL FEATURES CHAT SYSTEM

User can use any chat apps like snap chat to chat with their friends and relatives. Chat system can be kept secure by authenticating each user with their own face recognition, secret sign or pattern, face recognition and palm line detection. Two virtual users can communicate through chat system with the help of internet/intranet and their chat data may be stored on cloud. With the help of voice recognition user can virtual user with whom want to chat. User can use virtual keypad with the help of which can type data or can use voice recognition to capture words and chat with their friends. User can use store data of cloud to upload images and video through internet/intranet from one user to another.

VIII.   VIDEO CALLING

For video calling user can select   person from contact list to whom wants to do video call.

There should be a video calling button which has features of calling and video mode which enables to do video call.

- There should be one feature which consists of scanner and high

IX.   SECURITY FEATURES

- The key of smartphone can be forgotten or can be known by an unknown user hence for security purpose user can use his/her hand palm detection, finger print detection, face recognition, secret sign, username and password to open the phone.

X.   VIRTUAL SMARTPHONE IN HEALTH MONITORING SYSTEM

Virtual smartphone consists of wearable sensors which can be used in applications like physiological, biochemical and motion sensing. These sensors are used in monitoring health indicators and body positions of patients. Virtual smartphone can consists of health monitoring applications which may consist of biosensor which monitors heart data.

Virtual smartphone should consists of applications which consists of wearable sensors to transfer patient diagnostic data wirelessly through Bluetooth to doctor smartphone.

XI.   TECHNOLOGIES USED

Virtual smartphone being combination of   hardware and software is a wearable device. VSP   consists   of   tiny projectors, scanners, 4   micro projectors, ROM   and RAM, LED   indicators for device mode, processor unit,   USB   port and HD camera.

Make call, receive call, chat system and   copy data are technologies used by virtual   smartphone

XII.   VOICE CALL

Voice call can be done by using SIM.

XIII.   DATA TRANSFER

Data transfer in VSP is done by using data cloud.

XIV.   CONCLUSION

Virtual smartphone is a gesture and computer-vision based wearable interface that augments physical world with digital information and provides user the mechanism to interact with information using natural hand gestures. Virtual smartphone is free of physical dependencies and connects physical world to virtual world. Some applications of virtual smartphone.

- Health Monitoring System
- Finds information about new device.
- Connects user with news and weather update.
- Connects devices virtually.
- Use in education and training system

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