

## Virtual Smart Phones

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**Abstract:-** For every departure metal money communication may be a manner by that they share/pass their thoughts/fillings to 1 another. we have a tendency to homosepians chiefly use verbal communication to speak with one another. during this Paper we have a tendency to introduce VSP, a Virtual good Phone that is largely a step to attach each the Physical and virtual world, by employing a little projector, Camera, Speaker, microphone & Cloud Computing Technology over the net within the kind of wearable device. In VSP all the specified element area unit fancied within the wearable device by that use communicate with the assistance of natural hand gesture, Hand movement and net. In VSP user communicate with one another by Virtual mobile with the assistance of bit gesture electromagnetic radiation and cloud computing technology.

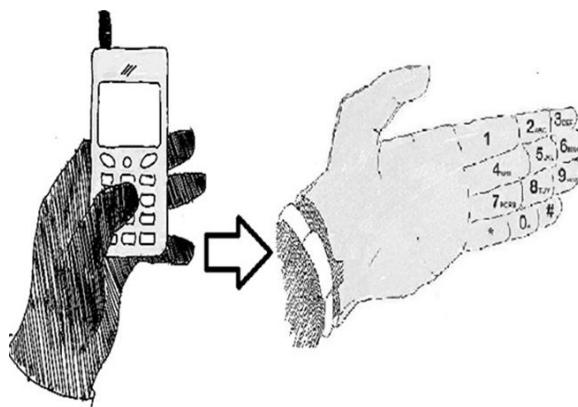
VSP can finish the physical dependency of mobile. VSP offer novel interaction methodology to seamlessly communicate with one another in an exceedingly fun and intuitive manner. The user will bit their Palm to form decision and might even be used for looking at movies or pictures on their Palm/wrist. bit gesture is employed for creating and Terminating the decision. VSP uses touch-based interactions as instruction for establishing communication between the various users.

### 1. INTRODUCTION

The recent advent of novel sensing and show technologies has inspired the event of a spread of multi-touch and gesture primarily based interactive systems. In these systems user could move directly with info victimization bit add natural hand gestures. these days there area unit voluminous approach by that we will hook up with digital world within the controlled surroundings victimization muti-touch and gesture primarily based interaction. sadly, most gestural and multi-touch primarily based interactive systems don't seem to be mobile and little mobile devices fail to supply the intuitive expertise of full-sized gestural systems.

Moreover, info still resides on screens or dedicated projection surfaces. there's no link between our interaction with these digital devices and interaction with the physical world around US. during this paper, we have a tendency to gift VSP-Virtual sensible Phone, a multi-touch and gesture primarily based interaction system. that replace the physical transportable device to the virtual multi-touch & natural gesture primarily based interaction on the user palm by that

user communicate with alternative digital devices over the network. VSP primarily turns the human hand as a transportable by that is ready to user hook up with the digital world additionally as alternative peoples like their friends and relatives.



VSP is largely a computer-vision primarily based wearable and gestural info interface that augments the physical world around US with digital info and proposes natural hand gestures because the mechanism to move therewith info.

### 2. RELATED WORK

Recently, there are an excellent form of multi-touch interaction and mobile device merchandise or analysis prototypes that have created it doable to directly manipulate computer programme parts victimisation bit and natural hand gestures. Most of those systems rely upon the physical bit-based interaction between the user's fingers and physical screen and therefore don't acknowledge and incorporate touch freelance freehanded gestures. VSP Virtual sensible Phone Technology takes a unique approach to computing and tries to form the digital facet of our lives a lot of intuitive, interactive and, above all, a lot of natural. It's plenty of advanced technology squeezed into a straightforward moveable device. once we herald property, we are able to get instant, relevant visual info projected on any object we tend to develop or act with the technology is especially supported hand increased reality, gesture recognition, laptop vision based mostly formula etc.

### **Augmented Reality**

Augmented reality (AR) may be a term for a live direct or indirect read of a physical globe setting whose components square measure increased by virtual computer-generated imagination. it's associated with a lot of general idea referred to as mediate reality during which a read of reality is changed (possibly even diminished instead of augmented) by a laptop. The augmentation is conventionally in time period and in linguistics context with environmental components.

Virtual good Phone uses increased Reality idea to position digital info on the physical world. With the assistance of advanced AR technology (e.g. adding laptop vision and object recognition) the data concerning the encompassing globe of the user becomes interactive and digitally usable. Artificial info concerning the setting and therefore the objects in it are often keep associate degreed retrieved as an info layer on high of the important view. the most hardware elements for increased reality are: show, tracking, input devices, and laptop. Combination of powerful hardware, camera, accelerometers, GPS and solid state compass square measure typically gift in fashionable Smartphone, that create them prospective platforms

### **Gesture Recognition**

Gesture recognition may be a topic in engineering science and language technology with the goal of decoding human gestures via mathematical algorithms. Gestures will originate from any bodily motion or state however normally originate from the face or hand. Current focuses within the field embrace feeling recognition from the face and hand gesture recognition. several approaches are created mistreatment cameras and pc vision algorithms to interpret signing. Gesture recognition will be seen as how for computers to start to know soma language, so building a richer bridge between machines and humans than primitive text user interfaces or perhaps GUIs (graphical user interfaces), that still limit the bulk of input to keyboard and mouse. Gesture recognition allows humans to interface with the machine (HMI) and act naturally with none mechanical devices. Gestures will be wont to communicate with a pc thus we are going to be largely involved with empty handed semiotical gestures

### **Computer vision Based Algorithm**

Computer vision is that the science and technology of machines that may see. As a study, laptop vision worries with the idea behind artificial systems that extract info from pictures. The image information will take several forms, like video sequences, views from multiple cameras, or multi-dimensional information from a medical scanner. The software system tracks the user's gestures mistreatment computer vision primarily based algorithms. the pc vision system for pursuit and recognizing the hand postures that

management the menus relies on a mixture of multi-scale color feature detection, read primarily based stratified hand models and particle filtering. The hand postures or states ar depicted in terms of hierarchies of multi-scale color image options at totally different scales, with qualitative interrelations in terms of scale, position and orientation. In every image, detection of time period color options is performed.



The hand postures ar then at the same time detected and half-tracked mistreatment particle filtering, with associate degree extension of superimposed sampling stated as stratified superimposed sampling. to boost the performance of the system, a previous on skin colour is enclosed within the particle filtering. Figure 2: Gesture Recognized Mobile keyboard VSP conjointly|is additionally} associated with increased reality wherever digital info is superimposed on the user's read of a scene however it also take issue in many vital ways that. 1st VSP permits user to move with the projected info mistreatment hand gestures. Second the knowledge is projected onto the Hand/object and surfaces themselves, instead of onto glasses, spectacles or watch which ends in a {very} very totally different user expertise.

### **3. OBJECTIVE**

VSP Invention is said to transfer of knowledge & establishing communication from one physical body to different physical body or from one physical body to digital devices or vice-versa with none platform dependency. VSP is essentially AN makes an attempt to create the communication between users and Digital devices additional tangible and interactive. the target of this invention is establishing the connection/communication between humans and conjointly with digital devices by barely gesture on the human Palm/Hand. VSP work on 2 kind of information transfer.

First, It establish auditory communication between the users with the assistance of GSM Technology with none physical cell phone.

Second, For Transfer of knowledge between the humans and conjointly with digital devices. It create use of the net, computer network network or the other kind of information Servers through that device and humans area unit connected to and also the distinguish from one user to a different by the authentication ways like username/password, drawing a pattern on the virtual screen, face recognition, Palm recognition victimization palm lines or fingerprint detection will be used. In VSP auditory communication type one human to a different will be done either by victimization GSM or Internet/Intranet technology.



The Transferring of knowledge from one creature to a different or device victimization VSP. the primary and second digital devices is also gesture recognition VSP system connected to a network as well as a knowledge storage cloud and each uses VSP Technology.

#### 4. WORKING

Working of VSP accommodates five Main steps i.e. sanctioning & evidence VSP, Make Call, Receive decision, Capture Image/Video, repetition knowledge & paste/Pass knowledge to different VSP & Digital Devices as follows.

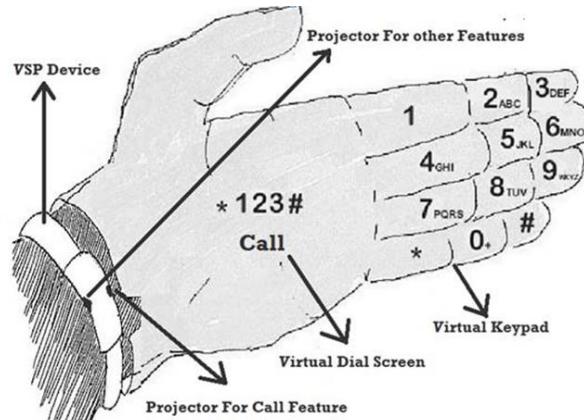
##### A. sanctioning VSP

The VSP may be a wearable device and user has the key to change (ON)/Disable (OFF) the device through the ability Button. once user change the VSP Device, associate icon seems on the user palm or arm as per user as per designated by the user for showing the standing (if a user has signed in).If not user will bit this icon to login or modification users victimization totally different authentication strategies like: Enter user name and secret, Drawing a secret sign or pattern, Face recognition, image choice and Fingerprint detection and Palm line Detection once a user has signed in with success, VSP is currently prepared for creating and receive calls and different Operations

##### B. Make Call

After enabling VSP currently user is in a position to create decision and communicate with their relatives and alternative persons. to create decision, Dial mobile range

mistreatment virtual key or mistreatment Voice Recognition system. For establishing decision between 2 users, VSP uses 2 technique that ar as follows.

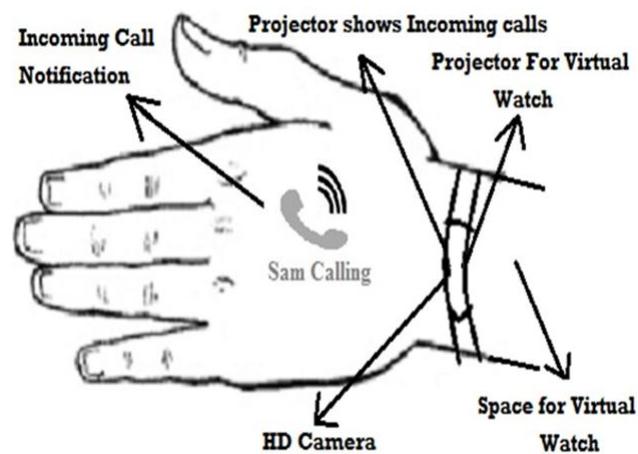


##### a. build decision mistreatment SIM:

VSP device encompasses a small SIM (Subscriber Identity Module) by that device established the decision mistreatment GSM/CDMA (Global System for Mobile Communications / Code Division Multiple Access) Technology.

##### b. build decision mistreatment VOIP:

VSP device encompasses a Wi-Fi (Wireless Fidelity) and Mobile information possibility that connect the device to the Intranet/Internet, by mistreatment this user is in a position to create calls mistreatment VOIP (Voice Over IP) Technology. By mistreatment VOIP user is in a position to create the decision to alternative VSP user additionally as all the others GSM and net VOIP change Digital Devices. once user isn't connected to internet/Intranet, decision is just created mistreatment SIM while not user's permission however once user hook up with net it raise user to pick the choice by that user needed to create decision as per user choice the decision is hook up with alternative person.



### C. Receive decision

When a VSP user referred to as by different VSP user or different digital device users by (Physical portable laptop computer, Desktop and personal organiser 'Personal knowledge assistant) the notification of incoming decision are going to be shown as per user designated Profile if user choose vibrate mode, the tiny vibrator motor indicate incoming decision by vibration & conjointly shows the identity of occupation user on back aspect of palm victimization high Density projector of VSP. If user choose Sound Mode, incoming decision notified by designated ring tone with user Name on the rear aspect of Palm. In Silent mode it solely indicate the name of caller within the back aspect of palm. For attending the incoming decision user simply bit, swipe the incoming decision icon or different bit gesture designated by user. to talk the caller user either use Bluetooth telephone receiver or wired telephone receiver that is connected to VSP device victimization three.0 connective. User is also ready to receive decision directly victimization VSP Device Speaker and Mice. For VOIP calls each user should be connected to the net victimization WI-FI or Mobile knowledge.

### D. Capture Image/Video

VSP is additionally ready to capture prime quality Images/Video victimization their prime quality Camera by click capture image button or by victimization gesture (make a fame victimization our index figure and thumbs) for taking photos. once taking the image it shows the image on user hand victimization VSP System. For shoot video with constant gesture user simply needed to alter the camera mode photos to video. User conjointly center or zoom out whereas they capture Image/Video victimization their hand gesture.

### E. Copy Data:

In VSP permit users to Transfer (Copy/Paste) knowledge from one shape to a different shape or device by employing a single bit gesture. For copy knowledge user must login initial in VSP device and connected to Internet/Intranet. For distinctive a duplicate event in VSP uses an extended press (Detect by perceiver Program) on copy ready knowledge item (keeping finger on a knowledge item quite one.5 sec. shown on user arm victimization VSP projector) indicates to repeat that knowledge item. Whenever user bit any copy ready knowledge barely perceiver program begin investigating the time and once time exceeds the edge (1.5 sec.) a message seems indicating that {the knowledge|the info|the information} item is being traced and gets traced to the user's distinctive area within the data cloud. The copy knowledge to the information cloud may also be done by other ways (instead of long-press for one.5 seconds). for instance, double faucet on knowledge item or draw a circle the information item to initiate copy. victimization this method user copy multiple file for passing/paste to the

opposite device all the copy knowledge save within the cloud on temporary bases with distinctive id of every knowledge item.

### 5. TECHNOLOGIES USED

VSP is largely a wearable device that is combination of hardware still as software system. In hardware VSP incorporates Processor Unit, Ram & storage Memory, Power provide (battery), Sensors (Accelerometer, sixteen Proximity sensing element for distinguishing bit on Arm), light-emitting diode Indicator For Device Mode (ON/OFF), small Vibrator Motor, USB port (For charging or attaching different devices), four small Projectors (like Pico Projectors), one HD Camera for Capturing pictures and videos, Low energy needed WI-FI and Bluetooth devices, GPS system, four bit buttons (ON/OFF Button, Snap Button, sound Up button, sound down button) and Nano SIM card slot. In software system it use gesture recognition system, bit based mostly interaction system, increased Reality, laptop vision based mostly formula to meet all the objectives.

VSP uses the subsequent Technology for create decision, Receive decision, repetition knowledge & paste/Pass knowledge to different VSP & Digital Devices.

#### a. Voice Call:

In VSP voice decision done by exploitation either by exploitation SIM (GSM/CDMA) or although net exploitation VOIP Technology.

#### b. knowledge Transfer:

Data transfer from one body to a different body or device in exploitation VSP is completed by exploitation knowledge Cloud. For Accessing knowledge cloud user is also connected to net either by WI-FI or Mobile knowledge exploitation SIM.

### 6. CONCLUSION

VSP is essentially a computer-vision primarily based wearable and gestural interface that augments the physical world around United States with digital info and proposes natural hand gestures because the mechanism to move thereupon info. It connect Physical world to Virtual world. VSP provide intuitive thanks to communicate and knowledge Transfer between completely different|completely different} users similarly as different Digital Devices.

VSP invention fulfill our 2 future necessities. First, it's free morpheme physical dependencies of devices. Second, it connect our physical world to virtual world Some Application of VSP as Follows:

1. employed in Health watching System.
2. accustomed realize info of any Product/Item.

3. accustomed Connect News and Weather Update.
4. accustomed connect completely different Devices just about.
5. employed in Education & coaching system.

## 7. REFERENCES

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