**“SMARTNAV TECHNOLOGY”**

**Pankaj Chakole1, Avinash Gajbhiye2,Sunanda Bhagat3**

**Department of Computer and IT,Madhukarrao pandav collage of Engineering Bhandara.**

This seminar report describe Smartnav technology.This technology provides a hand free way for operating a computer.This technology useful for the person who have no hands.

**Contents:-** Introduction,requirements,working,installation,clicking option,

problem and reference.

**Introduction:-**Smartnav is reliable and accurate hands-free mouse alternative that allow complete control of computer by naturally moving the head.

This technology was developed in Boston collage and university.Smartnav integrates innovative hardware design with an easy to customize software package,resulting the complete solution for both ergonomic and assistive technology commity.We can not operate a computer without mouse and keyboard.this technology provides totally hand free way that you can operate a computer avoiding the use of your hands.**![F:\ \smartnav4-sideangle-h200[1].jpg]()**

**Requirements:-
1**)window 2000,window XP

2)5MB Disk space in your Hard drive

3)24MB RAM

4)USB Connection

**How does the technology work**

The smartnav hand free mouse uses infrared camera mounted on your computer monitop or laptop to track your head movements.the Dot reflect the IR light to the camera allowing it to monitor your movements and translate that movements of the mouse cursor on your screen.camera through infrared rays that rays falls on your head and reflect on monitor.this reflected lights is imaged by CMOS sensor and the video signals is passed to the pre-processing electronics.all passing data is send to the USB microcontroller to send to the PC for object.

**![F:\ \sq_at[1].gif]()**

**Installation of Smartnav software**

Fallowing are the steps for installing smartnav software

1)insert the included smartnav software CD into your computer CD Drive.wait for the install program to start.if the install program does not start with few minutes,double click on the CD Drive icon,and again double click on the setup file from my computer menu.

2)fallow the software installation instruction on the screen.

3)a new smartnav icon will appear on your desktop.

4)connect the smartnav device to the USB port of your computer.

**Clicking option:-**

It provides different option for clicking purpose which are as fallows

1)voice clicking

2)single foot switch

3)dual foot switch

4)dwell clicking

**![F:\ \sn-Dwell_ToolBar[1].gif]()**

**PROBLEM AND SOLUTIONS:-**

**(1)Switch clicking does not work.**

**Possible causes**

1.switches cable not securely plugged in.

2.smartnav is not tracking an object

**Solution**

1.check all connections unplug and securely reattached all male- female connection.

2.when go to the tracking tag and move dot back and forth 2’ in front of the smartnav device and toensure that yellow dot in the data window is green.

3.unplug switches and breakout cable.shut down software and run software.

**(2)when using dwell clicking features the system click faster/slower than I would like**

**Possible causes**

1.dwell click speed set too fast/slow

**Solution:-**

In dwell click tool bar,click on the setting box.click on the dwell tab.adjust the slider bar marked click time second.this will be as your new dwell click speed.

**(3)when I move my head the cursor move in a different direction than I do**

**Possible causes**

Incorrect rotation setting

**Solution**

Click on the movement tab and find the rotation menu.makes sure that your unit is sitting at the same angle has the smartnav unit in the rotation window.

**REFERENCE:-**

[**www.wikipedia.com/workingofsmartnavtechno**](http://www.wikipedia.com/workingofsmartnavtechno)

[**www.wikipedia.com/smartnavtechnology**](http://www.wikipedia.com/smartnavtechnology)

**www.wikipedia.com/installationsmartnavsoft**