**PROJECT TITLE: An assistive wrist gear for the blind**

**Problem Definition:**

As we all know eyes play a very important role in our day to day lives, but some are not fortunate enough to have a pair. India accounts for more than 20% of the blind people in the world. Daily tasks a normal person would do, could be a Herculean task for a blind person. Imagine the difficulty of a blind person in sending a mail to friend of his or posting a tweet/post in his twitter/Facebook account or switching on an electric appliance such as a fan or an Air conditioner or knowing his current location in the city and so on. Hence in order to simplify the tasks of a blind person BLIWATCH provides an innovative solution.

**Innovative Solution:**

BLIWATCH is an interactive wrist gear or a device similar to a normal wrist watch which provides intelligent assistance to a blind person. BLIWATCH aims to simplify a blind person’s daily tasks by automating some of them based on certain basic voice commands issued by the user to an interactive wrist gear. Imagine a blind person talking to the wrist gear as

“ **EMAIL** personX **SUBJECT** hello **CONTENT** BLIWATCH is actually helping me send a mail ”

or “ **TWEET** this is my first blind tweet ”

or “ **BOOK** train Cheran Express **DATE** twentieth of January 2013 ”

and the system actually performs these tasks and replies with a voice message so as to let him/her know the status of the action. BLIWATCH could also be able to answer particular questions about his/her whereabouts or restaurants nearby or any relevant general query. The user will also be able to define his/her own commands to perform a particular customized action. For example the command “**SWITCH ON HALL LIGHT”** could be configured to switch on the light in the hall by configuring an IP address for the light.

**Working Concept:**

BLIWATCH uses a microphone to record the user’s voice commands. Italso involves an Ethernet shield or an Ethernet card along with a microcontroller to transmit data from the device to the server. The server performs voice to text conversion, extracts the necessary commands, data parameters and performs the necessary action with the help of various API services provided. The various personal information of the user, the IP address of the device, personal preferences could be saved in a database and used for the various transactions. The process flow is as follows

**Proposed Activity:**

BLIWATCH requires a simple design in order to accommodate the system into a wrist watch sized gear. The entire construction of the system could be divided into 5 different modules

* Finding the optimized hardware resources for the design
* Voice transfer between device and server /network mechanism
* Interface with database system
* Connecting with various API services
* User interface for the users opting to access and modify personal details or creating customized commands

**Expected Outcome:**

BLIWATCH simplifies the everyday tasks of a blind person. It acts as an intelligent personal assistant for a blind person and guides him to do his/her daily chores all day. Thus BLIWATCH comes in handy for the blind and a major part of the society would be benefited out of it.

**Budget with Breakup:**

**Milestone for Completion:**