A Footstep to Describe the Way to Implement Smart Safety Device Using IoT Based Telebot Application

I. BHUVANESHWARRI

Assistant Professor (Senior), Department of Information Technology, Institute of Road and Transport Technology, Erode, INDIA.

Abstract- The strengthening of safety measures to women and school students are very much essential in our country. Inorder to instill greater sense of security for them and to aid physically challenged persons, some wearable devices should be very helpful. This research paper should focus on the above mentioned issues. The paper describes the way to implement IoT (Internet of Things) based telebot application on already existing wearable devices such as Bluetooth and mobile phones.

I. INTRODUCTION

The chatbots are conversational agents which created with the aid of AI (Artificial Intelligence) software. They simulate a conversation (or chat) with users mentioned above using messaging services, websites and mobile applications in a natural language. There are primarily two methods that users can access chatbots. Those are web-based programs and standalone programs. A potential change in how individuals engage with data and services online is represented by chatbots. Although there is a current spike in interest in chatbot design and development, we are unaware of the motivations behind chatbot usage.

The proposed application is implemented using Telegram application in an cloud environment which is termed as telebot. The telebot application is created to share the live location and to chat in a user friendly manner, so that all the above mentioned beneficiaries never feel alone. The telebot could be the best alternative to provide effective safety services to the women and physically challenged persons.

II. RELATED WORK

Dahia (2017) discussed about chatbot that the tool of conversation in real time environment. Abdul-Kader & Woods (2015) have given the survey about chatbots. Huang et. al., (2017) described that the chatbox for a dialogue-based second language learning system. Nuruzzaman & Hussain provided the survey on chatbot implementation in customer service industry through deep neural networks (2018). Pereira & Díaz (2018) have given the Chatbot dimensions.

III. SCOPE AND OBJECTIVES

- To provide the security to women in night travel and alert the control room with voice message in case of any emergency like a patrolling bot.
- To intimate lively the current location of their school children.
- To have a user friendly conversation with physically challenged persons in an effective manner through wearable devices.

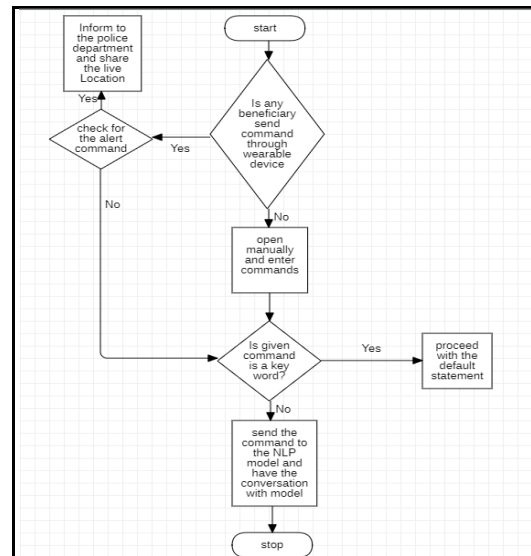## IV. ARCHITECTURAL FLOW OF THE PROPOSED SYSTEM

Figure 1: Flow work of the proposed application

The Figure 1 depicts the flow work of the proposed application. The beneficiaries must wear a wearable device such as Bluetooth or mobile phone. If anybody are in emergency situation, they initiate an alert command to telebot in turns it responds to the control room monitored by the police department with their live location. The telebot also useful for the parents to know whereabouts about their children and the physically challenged persons for making friendly conversation with their friends or family members or care takers.

V. PROCEDURAL STEPS OF THE PROPOSED APPLICATION

STEP I: Start (Turn on wearable device)

STEP II: Beneficiaries initiate a command

a. If the command is an emergency, Send information to control room (or)
b. If the command is whereabouts, send information to parents (or)
c. If the command is related with chat, make chat with friends.

STEP III: The telebot uses Natural Language Processing to extract the intent from the statements and phrases used while chatting

STEP IV: After intent extraction, telebot sends a request to the IoT device to call a function which will capture a 360-degree image and the location using Global Positioning System (GPS). While the GPS data is directly sent to the response file, the 360-degree image is sent to cloud based service.

STEP V: The image that has been captured by the 360-degree spherical camera on IoT device contains a lot of information like human faces, emotions, age and appearance of people in the picture. These details can be fetched when this image is processed by a machine learning based image recognition software.

STEP VI: Send response to the beneficiaries

STEP VII: Stop.

CONCLUSION

Thus the proposed application telebot is implemented using Telegram application in an cloud environment. Through this telebot application, the live location is shared and there is a possibility to chat in a user friendly manner. It could be benefit for all the beneficiaries that they never feel alone. The telebot could be the best alternative to provide effective safety services to the women and physically challenged persons as well as school children.

REFERENCES

[1] Dahiya M. A tool of conversation: Chatbot. International Journal of Computer Sciences and Engineering. 2017 May 30;5(5):158-61.

[2] Abdul-Kader SA, Woods JC. Survey on chatbot design techniques in speech conversation systems. International Journal of Advanced Computer Science and Applications. 2015;6(7).

[3] Huang JX, Lee KS, Kwon OW, Kim YK. A chatbot for a dialogue-based second language learning system. CALL in a climate of change: adapting to turbulent global conditions–short papers from EUROCALL. 2017 Aug:151-6.

[4] Nuruzzaman M, Hussain OK. A survey on chatbot implementation in customer service industry through deep neural networks. In2018 IEEE 15th International Conference on e-Business Engineering (ICEBE) 2018 Oct 12 (pp. 54-61). IEEE.

[5] Pereira J, Díaz O. Chatbot dimensions that matter: Lessons from the trenches. InWeb Engineering: 18th International Conference, ICWE 2018, Cáceres, Spain, June 5-8, 2018, Proceedings 18 2018 (pp. 129-135). Springer International Publishing.