

## ABSTRACT

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People who can't see or have problem with the vision is called visually impaired people. Visually impaired people usually using a regular stick in their daily activities to know the road while going or heading somewhere, how to using regular stick to know theres or not an obstacle with direct interaction regular stick to the obstacle (object). Based on these so in this final project is to developed a tool Smart Guide Extension that can provide information about wind direction and gives a warning if theres an obstacle and or holes when the user goes to somewhere. Smart Guide Extension consist of two modules, the first is module of wind direction, and the seconds are modules obstacle and holes detection. In this book will be discussed more detail about the obstacle and holes detection modules. Obstacle and holes detection modules using two ultrasonic PING sensor as an information distance of an object, mikrokontroller Arduino UNO as the main control of will processed the data from the sensor, then arduino produce the output as sound (beep) from buzzer, and the giver of power to the tool in this project is using a 3000mAh powerbank which can be used for more than 8 hours. In this final project userfriendly is value for 76 percent.

Keywords : Visually Impaired People, Smart Guide Extension, Ultrasonic PING Sensor, Arduino UNO, Buzzer.