# HURRY-CANE

## "See the world through my eyes!"

Rajanya Dasgupta
rajanya.dasgupta@gmail.com

Hrit Mukherjee
hritmukherjee@gmail.com

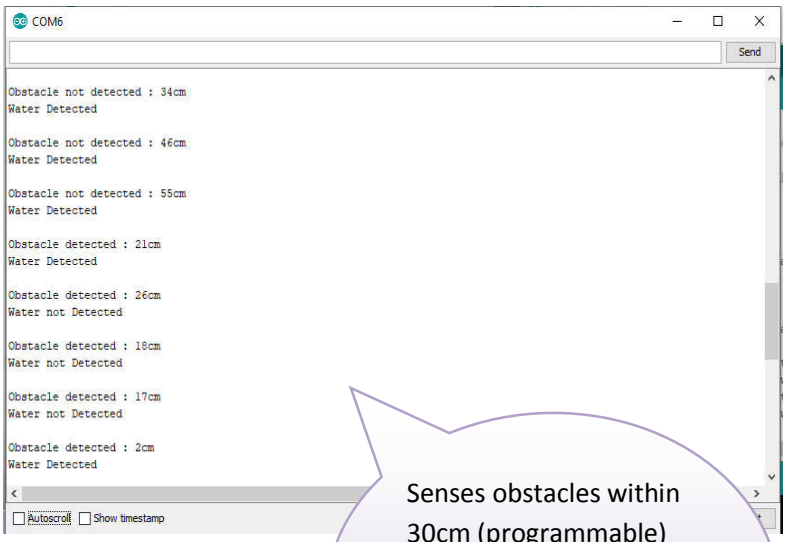
Debangee Das
debangee.das@gmail.com

***Abstract-*** Vision loss has a drastic impact on the lives of those who experience it, as well as on their families and the society, mostly in community orientated cultures and those in developing countries. The complete loss or the deterioration of existing eyesight shatters self-confidence, leaving the affected to wonder about their ability to maintain independence, retain employment, and provide for themselves and their family, which, on a larger scale, results in hikes in the levels of poverty, hunger and low standards of living in the community. India is home to one-third of the world's total population of approximately twelve million people suffering due to their visual impairment. The present market aids do not seem to provide any significant remedy and therefore, as our social responsibility, we have tried to facilitate their safe and independent locomotion through our project.

In this project, we have come up with a solution in the form of an electronic stick, the "Hurry-Cane", which not only aims to provide artificial vision to the visually impaired people, but also acts as sole companions for the elderly people who have their eyesight weakened with age and also the individuals who fail to see properly during night-time. The "Hurry-Cane" comes with seven features, namely Obstacle Detection, Water Puddle Detection, Traffic Signal Status Notification System, Navigation and Tracking using GPS, Road Condition Recognition, Find-your-Cane Feature, and Glow in the Dark Indicator. The prototype is implemented in a Microcontroller based Embedded System Platform. The actuation is mainly carried out via Bluetooth earphones, paired with the user's Personal Mobile Devices (PMD) beforehand. The user's phone receives the notifications, and transmits them to the earphones for appropriate actuation, thus completing the whole execution without the requirement of any internet. With all these features coming in a cost-effective and user-friendly way, we believe that this would help the visually impaired people regain their confidence, make them independent, ultimately leading to the welfare of the society.

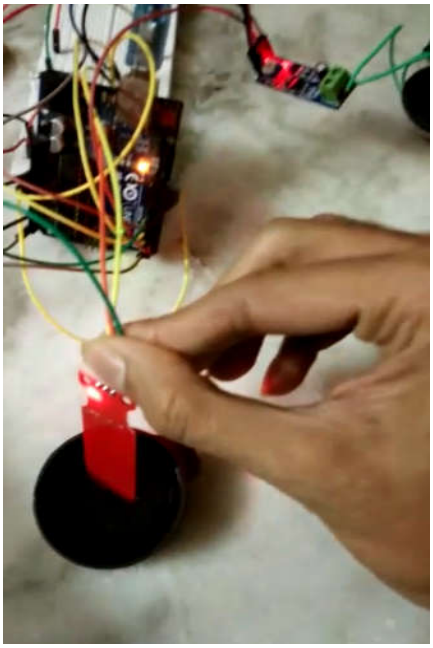
# Results:

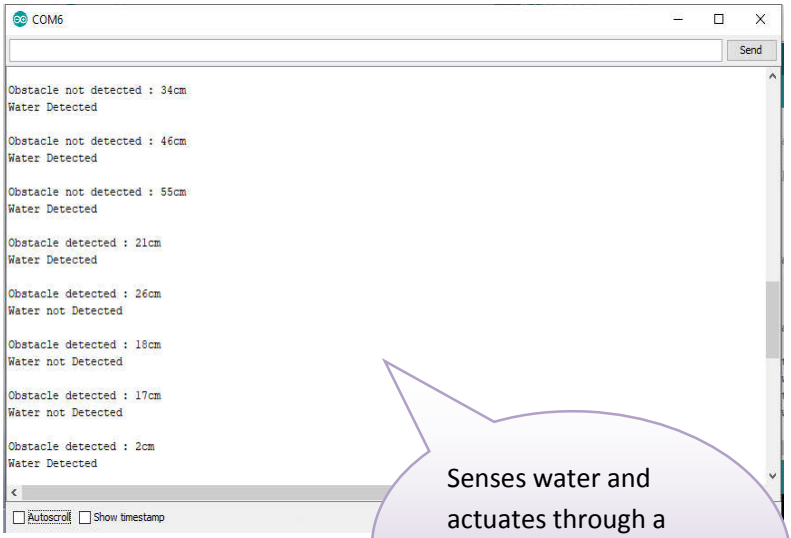
## 1. Obstacle Detection Feature:




Senses obstacles within 30cm (programmable) and actuates through a speaker by prompting “DANGER! DANGER!”

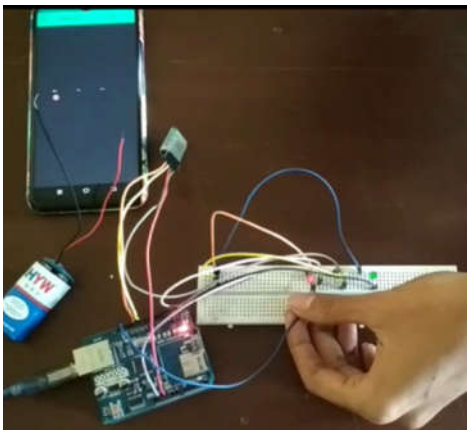
## 2. Water Detection Feature:



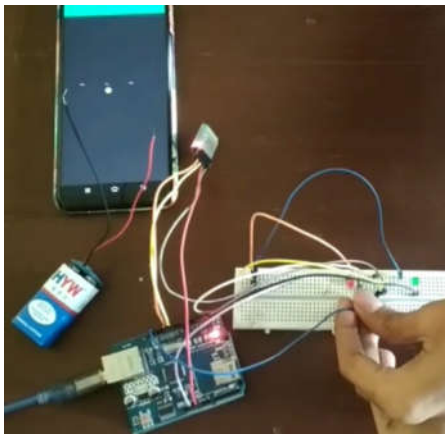



Senses water and actuates through a speaker by prompting “CAUTION! CAUTION!”

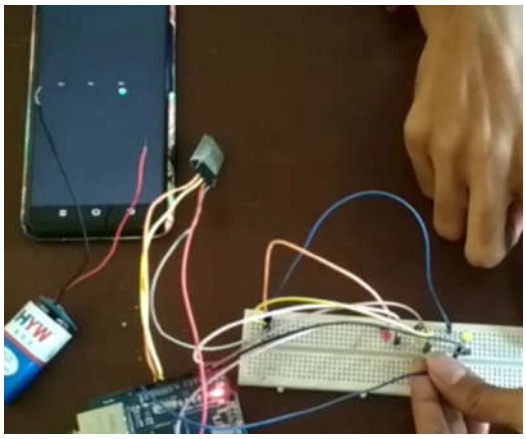
## 3. Traffic Signal Status Notification Feature:



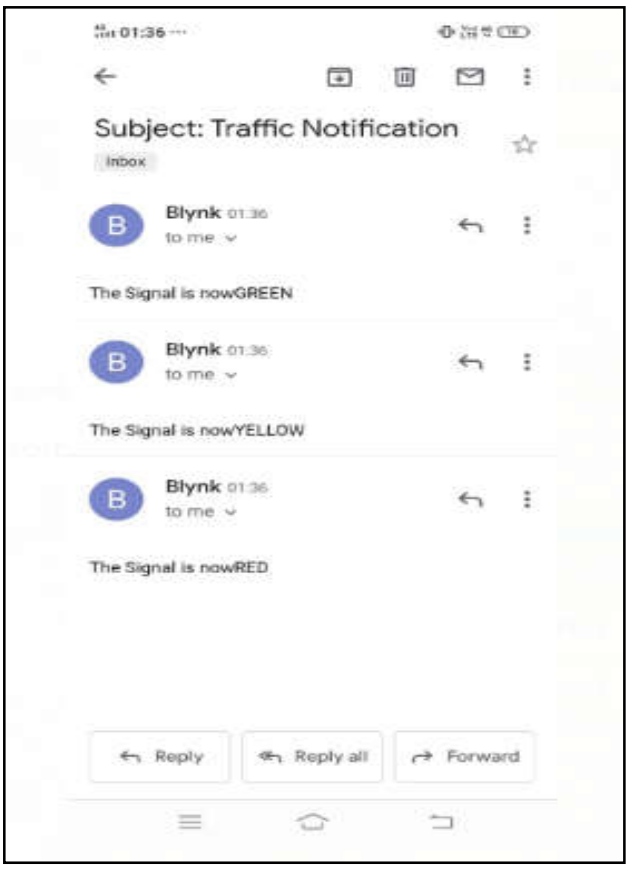
Red



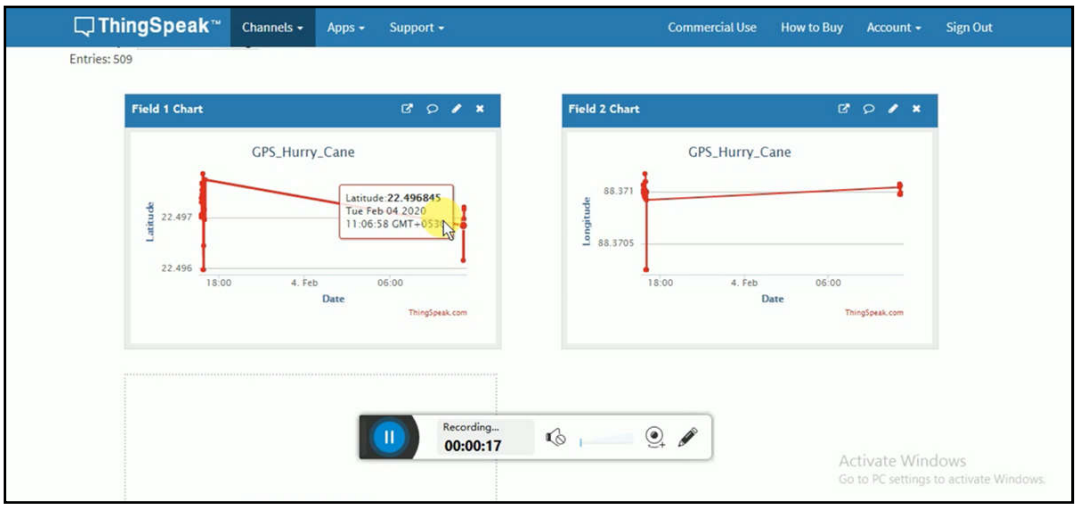
Yellow

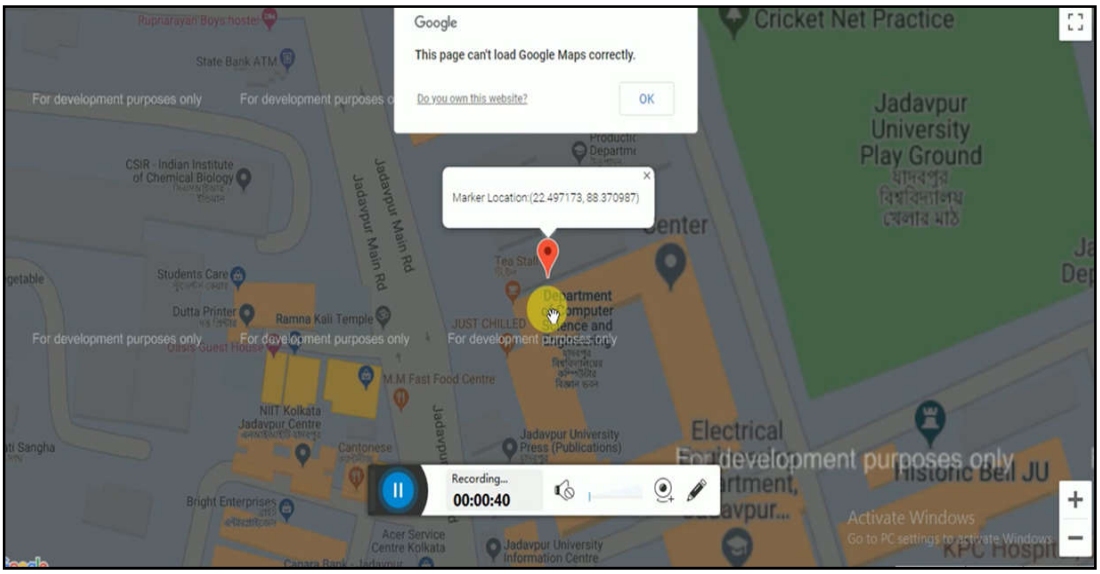


Green



# 4. Navigation using GPS Feature:

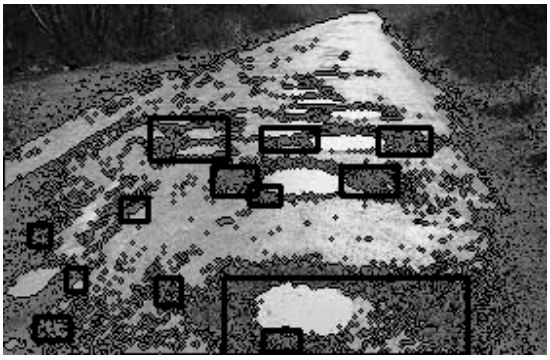



Appropriate latitude, longitude, date and time shown on the ThingSpeak server and the corresponding location pointed on Google Maps platform.

## 5. Road Condition Recognition Feature:

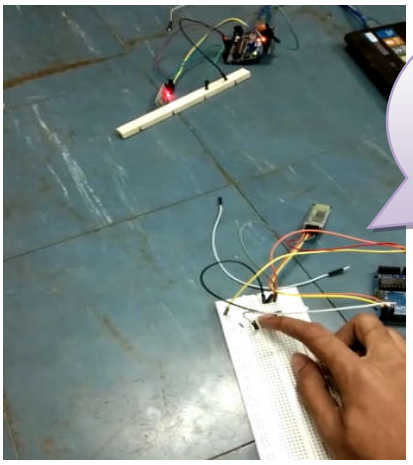
**Input:** **Output:**



**Test1.jpg** **Uneven Road**

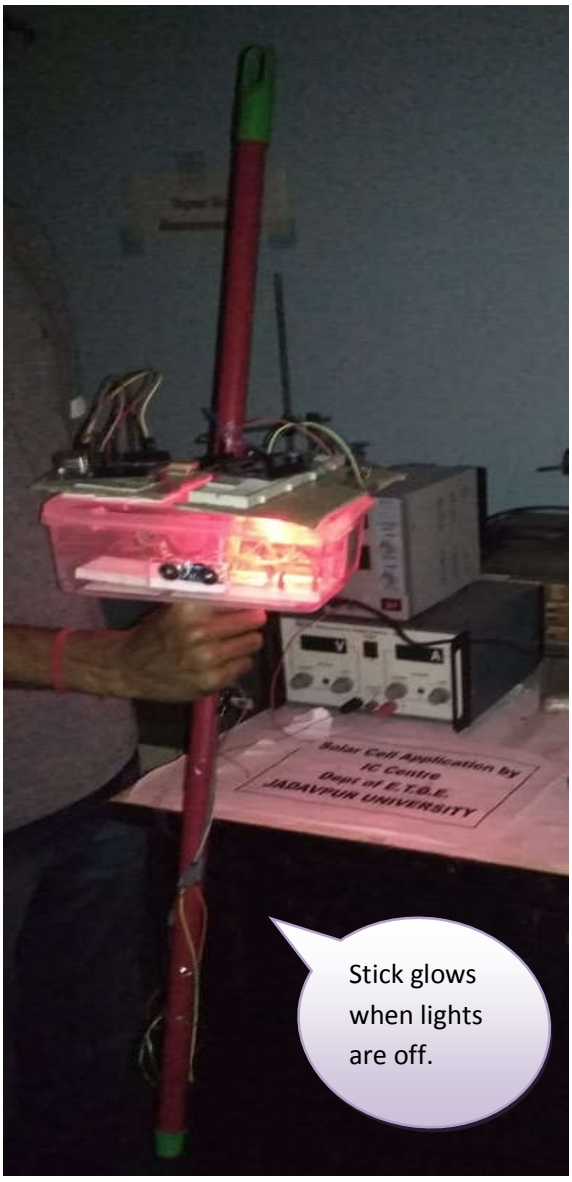
**Test2.jpg** **Even Road**

## 6. Find your cane Feature:



A buzzer blows whenever the user presses the push button.

## 7. Glow in the dark indicator Feature:

যাদবপুর বিশ্ববিদ্যালয়
কলকাতা - ৭০০০৩২, ভারত

* JADAVPUR UNIVERSITY
KOLKATA-700 032, INDIA

**TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME (PHASE -III)**
**(A WORLD BANK PROJECT OF GOVT. OF INDIA)**
**TEQIP CELL : AUROBINDO BHAWAN : SECOND FLOOR**

Ref: JU/TEQIP-III/GE/07/2020
Dated: 26.02.2020

To
Debangee Das
Hrit Mukherjee
Rajanya Dasgupta
C/O- Dr. Sayan Chatterjee
Department of E.T.C.E
Jadavpur University
Kolkata – 700 032, India

Sub: **Support for project work under Graduate Employability Plan of World Bank assisted TEQIP-III Program of Government of India.**

Dear Sir/Madam,

This is to inform you that your application for approval and financial support for the materials for the project work on "Hurry-Cane: See the world through my eyes!!!" **which will be submitted in "Anveshan National Student Research Convention"** has been approved under **Graduate Employability Plan** of World Bank assisted Technical Education Quality Improvement Program [TEQIP-III] of Government of India by the competent authority.

Approval is hereby accorded for incurring an expenditure up to a ceiling of Rs. 20,175/- (Rupees Twenty Thousand One hundred Seventy Five only) by you in connection with the above for **the project**, (subject to submission of bills/vouchers of actual expenditure).

**Kindly note that payment will be made by the NPIU through its portal (PFMS) directly to the beneficiary after approval of submitted bills by JU and NPIU. Any delay or other problems associated with the payment is not the responsibility of the University as payments is not the responsibility of the University as payments will be made by the NPIU.**

You are also requested to submit all documents related to the expenditure along with a report of the event/events attended within seven days from the date of your return to the university.

With Regards,
Yours Sincerely

Prof. Sudipta De
Nodal Officer (Academic), TEQIP III
Jadavpur University

Prof. Chiranjib Bhattacharjee
Pro Vice Chancellor
And
Coordinator TEQIP-III
Jadavpur University