Rajiv Gandhi Institute of Petroleum Technology

Design and Innovation Center

DIC Form C (*To be filled by the students proposing their own project*)

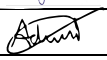
A. Details of the student member(s):

(1)Name: Ayush Gupta email: 20cs3016@rgipt.ac.in Phone No: 9956317209

(2)Name Advait Gupta email: 20ec3003@rgipt.ac.in Phone No: 7459800956

(3)Name Shardendu Shekhar Chaubey email: 20cs3059@rgipt.ac.in Phone No: 8299031351

B. Title of the Project: DRISHTI – Blind Aid Navigation Software
C. Nature of the Project (Short Term/Summer/Extended/BTP)**:** Extended
D. Faculty Mentor: Dr. Daya Sagar Gupta
E. Idea and innovation aspects: (Separate sheet. Not to exceed ten sentences.) Attached
F. Methodology: (Separate sheet. Not to exceed ten sentences). Attached
G. Timeline (if an extended project): (Separate sheet listing deliverables in the proposed chronological order).
H. Budget: (Please give the proposed split in s separate sheet). Attached Attached
I. Names and signatures:

No.	Name(s) of the student	Signature	Date	Name(s) of the faculty	Signature	Date
1	Ayush Gupta		20/09/2021	Dr. Daya Sagar Gupta		20/09/2021
2	Advait Gupta		20/09/2021			
3	Shardendu Shekhar Chaubey		20/09/2021			

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Project ID: **Decision**: Approved/To be Revised/Rejected

Remarks of the Technical Committee (if any):

Date:

Title: DRISHTI – Blind Aid Navigation Software

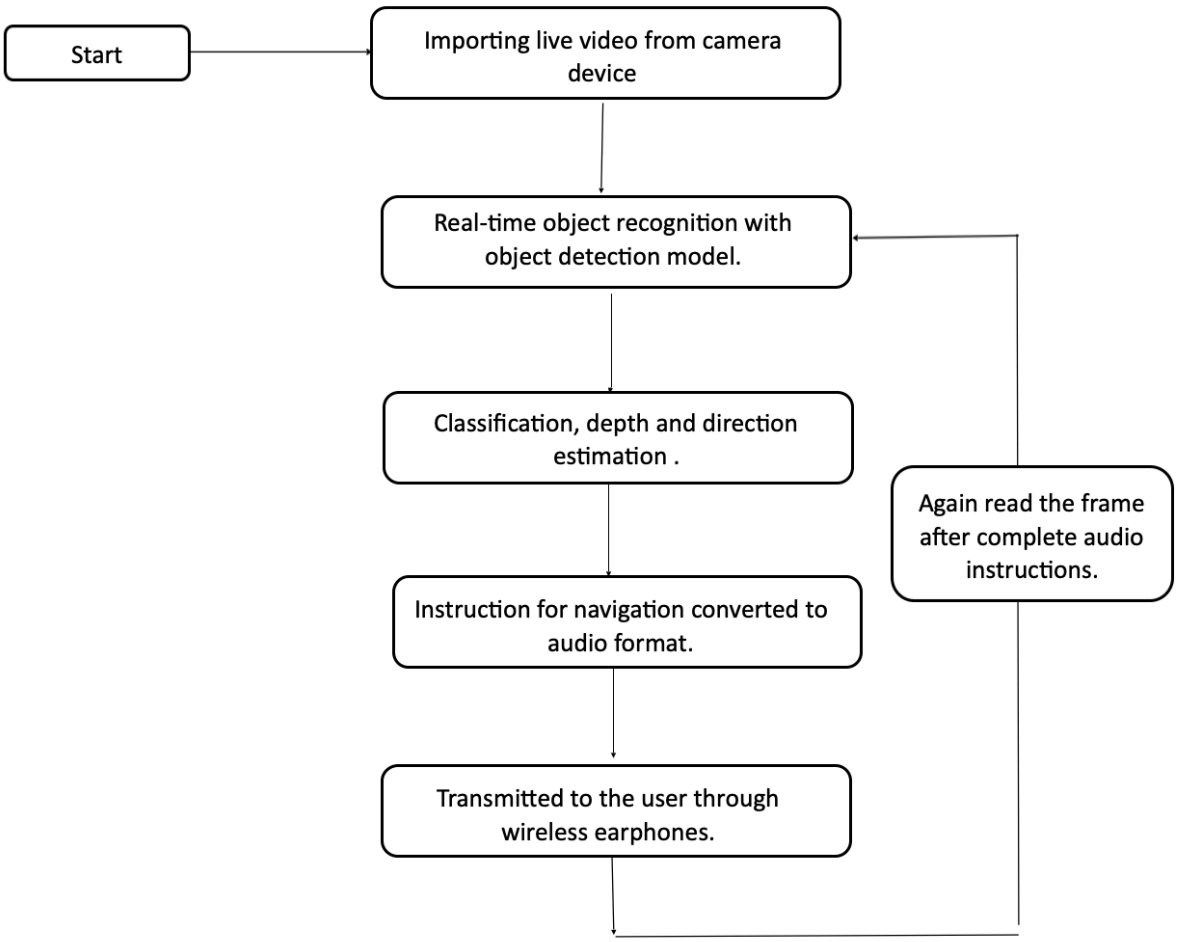
Idea and innovation aspects: Basically, in this project, the following problem will be addressed.

Vision is important not only to see objects but for dark adaptations, contrast sensitivity, balance, and colour perceptions. Though all these functions are lost in visually impaired people, yet they rely on other senses to carry out their daily activities. But, they face troubles due to inaccessible infrastructure and social challenges. The biggest challenge for a blind person, especially the one with complete loss of vision, is to navigate around places. They need human support or stick to sense and roam but many times they get hurt as unable to sense obstacles.
For this biggest challenge, we come forward with a solution to build the Blind Aid Navigation Software that efficiently helps them to navigate and interact with the world. The project tries to transform the visual world into audio world with the potential to inform blind people about obstacles.

Methodologies: The methodologies used to address above-described issues are presented as follows:

As discussed above the idea is to design Blind Aid Navigation Software. The glasses(specs) will have a camera from which real-time footage is fetched and processed frame by frame to identify the obstacles(objects) present in a certain radius, their classification(type of object), and distance calculation from the obstacle to inform the person of any obstacles that might come in his/her way and provide ease of movement around the world. The real helping stick is replaced by a virtual stick(virtual eye) that helps to walk and minimises the chances of getting hurt to a greater extent.
This is completely based on Computer Vision using different techniques for object detection, object classification, and distance calculation.
The output received will be converted to audio form which can be heard through an earpiece so the blind person can navigate around places without any human or stick support.

FLOW OF PROGRAM



TIMELINE

Serial No.	Activity	Months													
		$\frac{1}{2}$	1	$\frac{3}{2}$	2	$\frac{5}{2}$	3	$\frac{7}{2}$	4	$\frac{9}{2}$	5	$\frac{11}{2}$	6	$\frac{13}{2}$	7
1	Literature & practical survey of the problem														
2	Study & identification of CV, image processing & audio processing in problem														
3	Designing of Algorithm														
4	Test Run of the Software														
5	Debugging (if needed) and report writing														

BUDGET ESTIMATE

Serial No.	Budget Head	Amount (₹)
1.	Subscriptions and Consumables	10000
2.	Contingencies	5000
3.	Grand Total	15000