

Team Name: Team Number 6

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FUNDING PROPOSAL

Prototype for experimentation of vehicle
attribute extraction from CCTV footage

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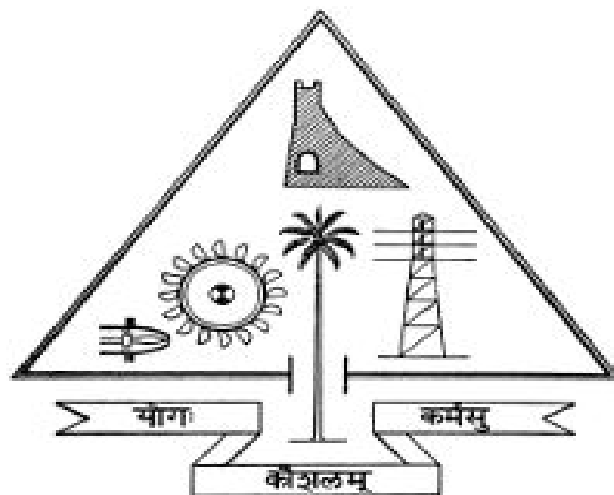
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Basic Information

1. Background for getting the idea

a. Who is it for?

The proposed system is aimed to help the law enforcers to easily identify a target vehicle from CCTV Footage. It can also be used by any other citizen who wishes to know whether a vehicle has passed in the video footage.

b. What will it do?

The web platform provides an option to upload CCTV footage into the website. Once the video is uploaded, a complete report regarding the information of the vehicles present in the video is generated. This report contains the various features of the vehicles including its colour, its type, its licence plate number, the timestamp at which the vehicle appeared in the video, etc. It also provides an option to perform an attribute-based search of vehicles in the video.

c. Which are the potential markets?

This prototype is aimed at helping traffic and law enforcement agencies. So our potential market would be law enforcement agencies across various states of the country.

d. Any unique features? Explain?

Currently, there is no automated system that provides a platform for attribute-based search of vehicles from CCTV footage in India. Compared to the existing systems, the proposed system enables the user to extract a wider range of attributes of the vehicle such as the colour, type, license plate number and manufacturer of the vehicle.

e. Is there enough demand?

Since crimes such as abductions and hit and runs have always been a threat in India, it has become vital for law enforcers to identify and track down vehicles from CCTV footage available at their disposal. Hence there would be ample demand for this prototype that would make it easier for law enforcers to identify and track those who commit such crimes.

f. Can customers afford it?

Since this system is a prototype, it will be available free of cost. The customers will be able to access it simply by entering the url of the website.

g. Why will they buy it?

The proposed system makes the process of identifying a target vehicle from CCTV footage automated, thereby making the task easier and more efficient. It helps the target customers to save their time and also eliminates the human error that may occur.

h. What is your motivation for doing it? (Statement of Purpose)

Vehicle surveillance has always been an extremely painful task for law enforcement. Nowadays, a fair share of investigations in almost any kind of crime requires law enforcement to track down a vehicle. Especially in crimes like abductions, an excellent vehicle surveillance system could make a significant difference, saving lives in an instant. At present, whenever the police are required to track down a vehicle with any available description about the vehicle, they are required to collect CCTV/traffic-camera footage from suspected areas and are required to comb through hours of footage manually. Not only is this extremely time consuming but also human error plays an important role in this. A second's distraction in examining hours of footage gives drastically different results, which can be a huge problem. Having a system that combs through video footage automatically in a shorter time and finding out the required information can be of phenomenal help to law enforcement.

2. How can you stop competitors from introducing similar offerings?

The prototype aims to obtain a high accuracy for all the different attributes. Since the proposed system is going to be implemented as an incremental model, we plan on updating our model according to the target market and improve the model to incorporate a variety of situations including various camera angles, nighttime surveillance, etc in the future.

3. How are you going to sell your product or service to potential customers?

The proposed system will be implemented as a website which can be accessed by its url through a browser. Since, it is a prototype, it will be available free of cost and hence, anyone with the url will be able to access and use the services.

4. How frequently will customers make "repeat purchases" of your product or service?

Since the prototype will be available to all users who have registered and been authorized free of cost, all features will be available to them and will not require repeated purchase.

5. How simple or complex will the idea's execution or implementation be? What are the risk factors involved in executing the idea?

The implementation of the idea involves training of 4 different modules to recognise the color, the license plate number, the manufacturer and type of the vehicle. Extracting the different features from the video and then integrating the 4 modules can be a complex task. The performance of the model will depend on varying conditions including the angle of the CCTV camera from which the input video is taken, the illumination, the resolution of the video etc.

6. How soon could the idea be put into operation?

In accordance to the proposed work plan, the website will be up and running by the end of April 2021 and the user will be able to access all the features offered by the prototype at that time.

Business plan

7. What is the break-even point and estimated time-frame? Having deducted your costs what "margin" can you make on your product or service?

Since this project is only a prototype and not a commercial product, the registered users will have access to all features free of cost and no margin will be made on this product. If the project were to be commercialized as a product, the users or organization will be required to buy the product and pay extras for new features that may be added in the future.

8. How much investment would you need to commercialise the idea?

The costs involved for commercializing the product will include mainly the cloud server hosting and media file server charges. The approximated investment required would be ₹72000 per year.

Expenses	YEARLY	MONTHLY
Cloud Server Hosting	54000	4500
Media File Server	12000	1000
Misc	6000	500
TOTAL	₹72000	₹6000

9. How will you raise the fund required?

We plan on participating in various idea pitching competitions to raise the fund required to develop this prototype. If we were to commercialize the product ,we would search for investors such as state governments or private companies to fund the product.

10. Why are you the best suited team to execute this idea?

Our team consists of members who are very capable technically with a strong desire to innovate and create. Each member has their own strong areas with an open mind to learn and grow both collectively as a team and individually. Our team is familiar with the expertise required to make this idea a reality and at the same time ready to meet all the requirements that may be required to make this idea a success.

11. Please share the capabilities of you/ your team in finance, sales, marketing, operations and technical knowledge?

The members of our group have ample amount of technical knowledge since we have worked on projects in this field earlier. Though we do not have a lot of experience in sales or marketing at the moment, each member is familiar with the basic concepts, principles and ethics involved in sales and marketing.

12. How do you intend to protect your idea (i.e. your intellectual property or IP)?

The model which recognizes the attributes from vehicles will not be made public and cannot be accessed without authentication to prevent it from being replicated. The code will not be shared with unauthorized personnel and will be stored in a private server with restricted access.

Fund utilisation plan

13. Your requirements for fund release and its utilisation? Answer based on the Gantt chart for workplan. If Gantt is worked out on a weekly basis, you can refer to the week numbers or a similar reference for release of funds.

The initial design phases will not require any funds. From Week 2, a monthly installment will be required for misc expenses which may be required for developing the recognition models. A lump sum would be required at the start of week 5 for setting up the website followed by monthly installment for hosting and server charges.

14. State the parameters by which the fund providers can identify and ensure progress along with utilisation of funds? State what indicators/outcomes(measurable by funding agencies) to look for knowing/ensuring progress of work along with expected utilisation on achieving that target. Present as a table, graph or in whatever form you think is easy to understand for a reviewer, in this project

If any of the fund providers are interested in the progress of work, we can use JIRA software - a project management tool. Meetings can be arranged for the fund providers to evaluate the work progress at each phase of development. The project will be completed according to the proposed work plan and fund providers can compare actual progress to the proposed work plan to get

Benefit to fund providers

15. State how the fund providers will benefit from funding your project? State in terms of tangible and intangible benefits. Whether you are willing to share the IPR with the funder, whether you are willing to include the agency name in project related documents etc... can be stated here.

In the scenario where governments, companies or individuals are interested in investing in this prototype for experimentation, when the prototype is further developed and monetized as a final software product, they would be given a part of the profit shares but the IPR will not be shared nor will their agency be mentioned in any of the project related documents.