Energy Conservation Using Computer Vision

A Vision for Sustainable Development

TEAM MAVERICKS

~Isha

~Dinesh

~Muskan

PROBLEM STATEMENT

- 77 Million villages in India faces electricity shortage.
- Annually 65 Giga Watt energy is wasted.
- Govt. is improving infrastructure but still it can't complete the requirements.
- Also renewable energy resources are being used.
- Still it can't complete the requirements.
- Around 3000 Cr. rupees are wasting.

What is missing ?
- The proper conservation of electricity !!!!

How Our Idea is Different?

- Completely new project.
- Use of completely new technology i.e. Computer Vision, Machine Learning and AI.
- Use of already installed CCTV's to reduce the cost.
- Conserve electricity.
- Unusual activity can also be detected.
- Adjust the light according to the surrounding intensity.
- Improved security of the CCTV data.
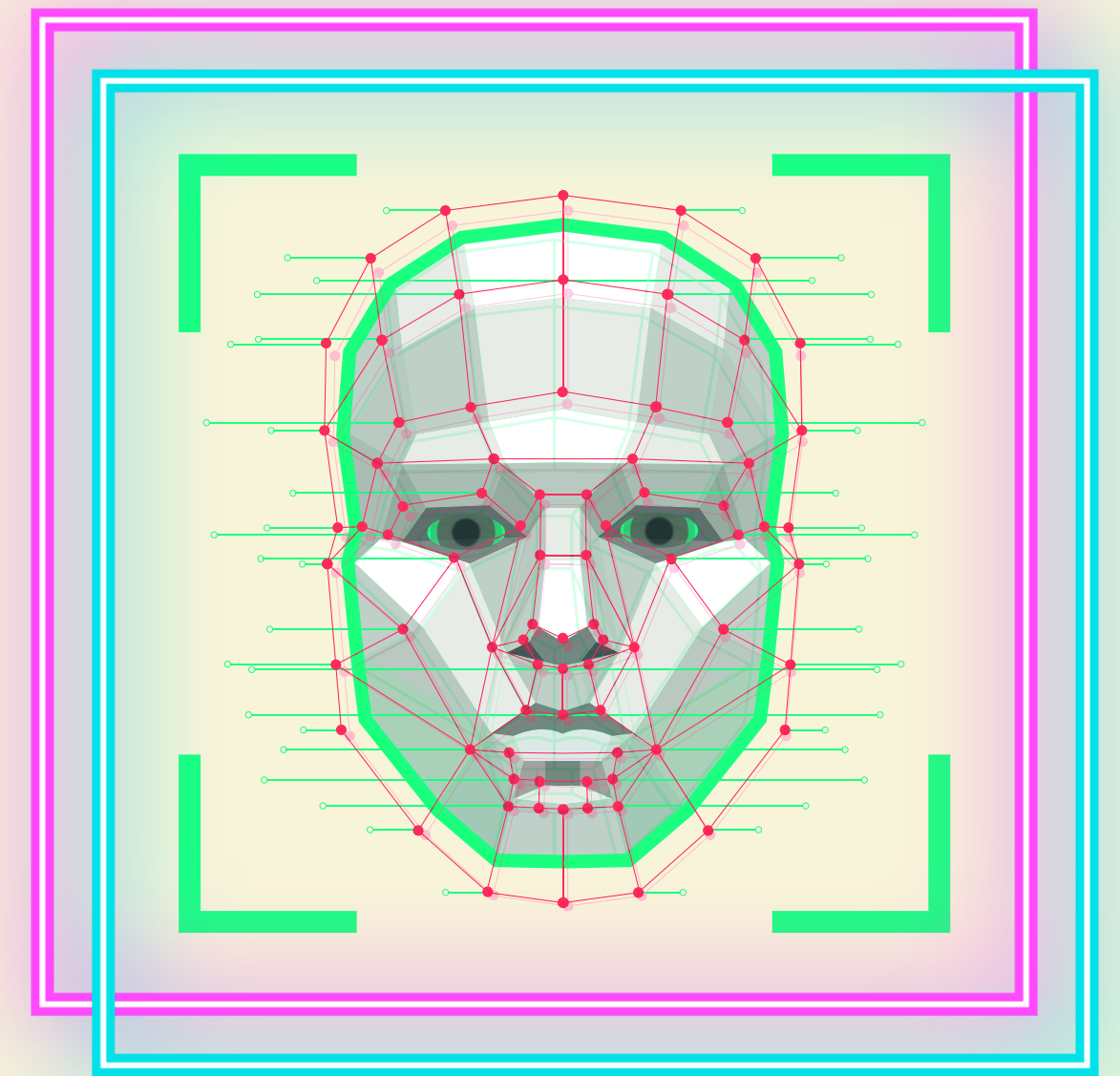
So what can be the solution?

-> We are using Computer Vision to solve the problem.
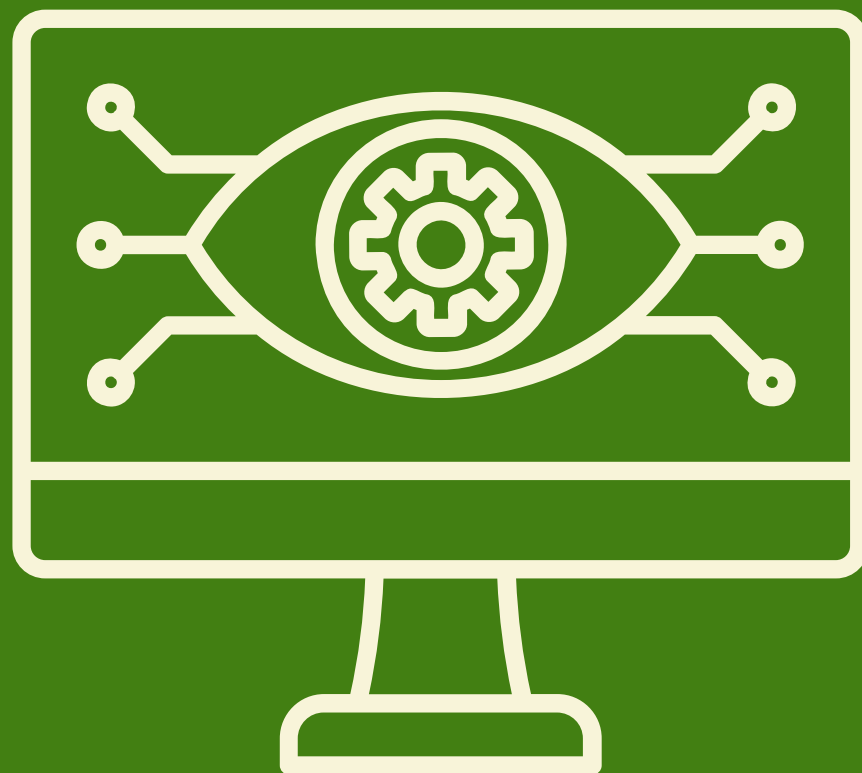
Computer Vision:-

Computer vision is a field of computer science focused on enabling computers to identify and understand objects and people in images and videos. It seems to replicate human capabilities of seeing and making sense of visual data.

How we are using CV?

We will use computer vision to detect the presence of human. If there is a human present in the room , our model will automatically turn on the light and turn off when no one is there.

Difference Between *Sensor* and *Computer Vision* !!

Characteristics	Sensor	Computer Vision
Process Speed	Slow	Fast
Cost	Expensive	Comparatively Cheap
Accuracy	Less accurate	More accurate
Range	Small	Large
Environment effect	Gets affected	No change in the output

ORIGINALITY AND FEASIBILITY

The problem is OLD but the solution is Novel.
This problem has been raised a lot of time and a lot of solutions are proposed every time. Solutions based on human occupancy sensors , GRID-EYE sensors ,Passive Infrared sensors are already there but they aren't accurate and their efficiency changes as per the environmental condition.

A solution for the described problem with AI + IOT involvement hasn't been perused till now which is unaffected to environment conditions.

The solution is easy to install , requires negligible maintenance, can be improvised , handles exception , easily upgradable.

- Input
- Human Detection
- Decision making
- Output loaded on microprocessor

SCALABILITY AND BUSINESS MODEL

- The Solution Package is highly scalable and easy to install.
- It can be produced to a large scale with very less manufacturing time.
- It can be used in all firms, institutions, universities, schools, warehouses etc. varying from buildings with single room to multiple floors.
- Pre revenue model
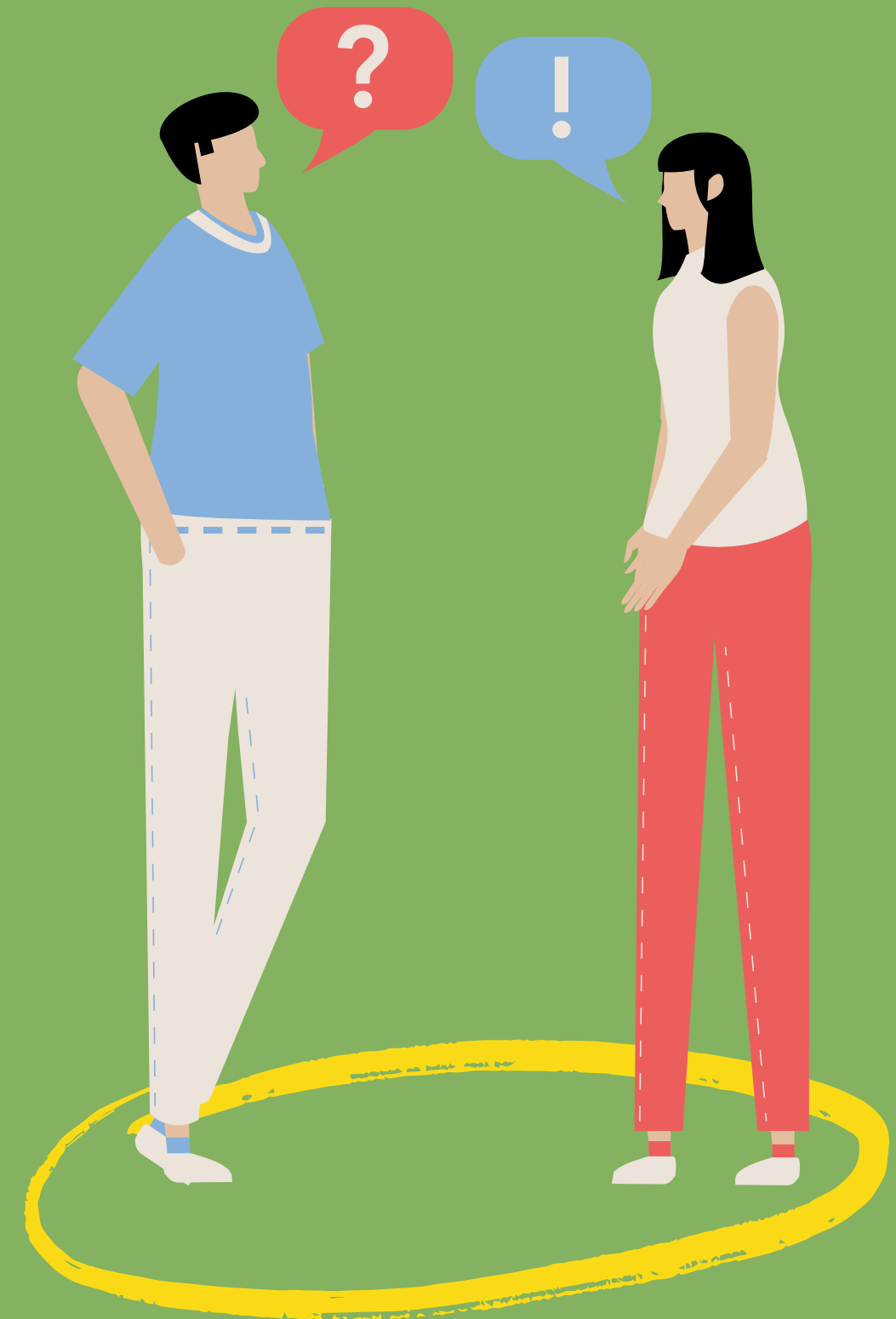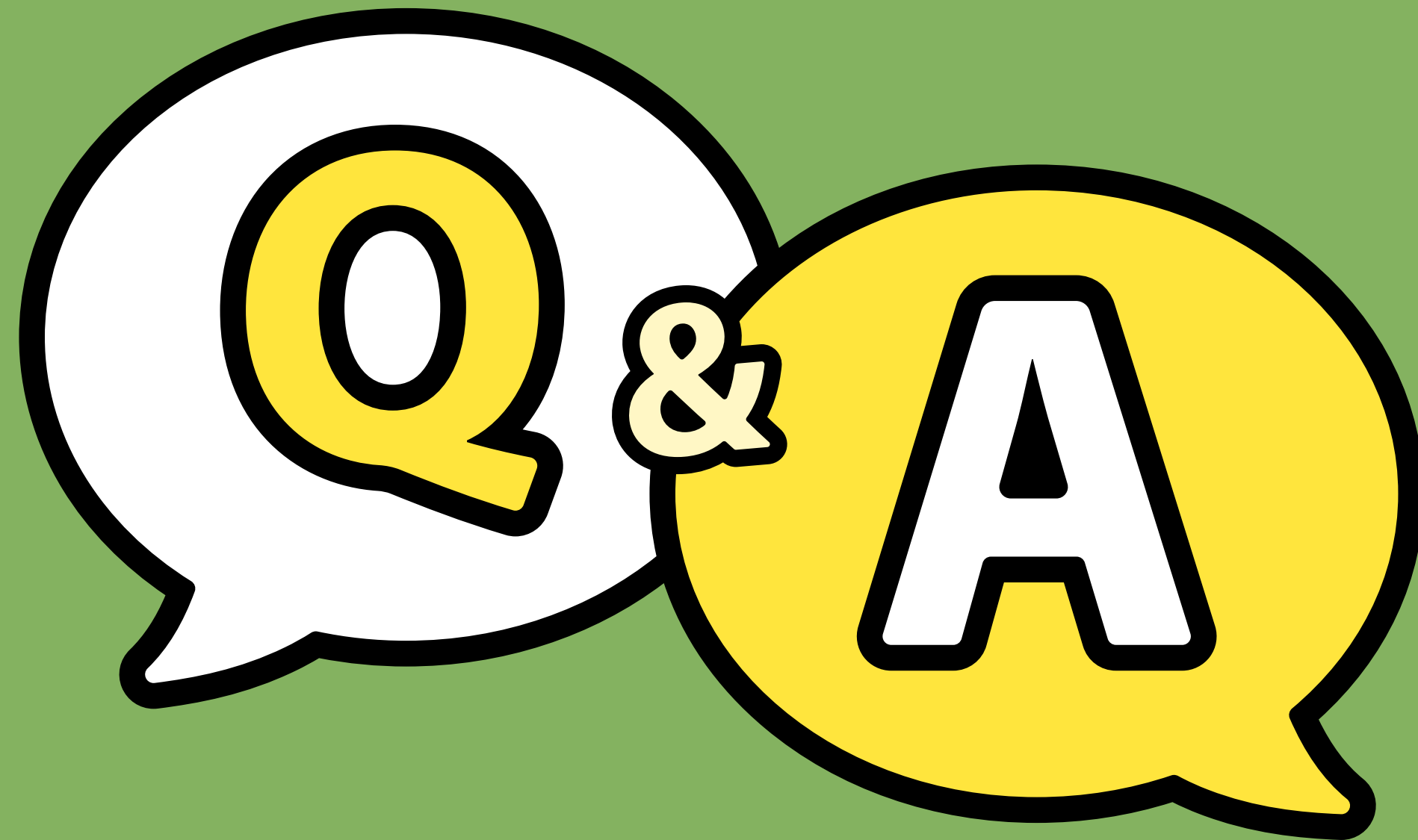- On the basis of their membership period we will charge accordingly.

ENERGY
CONSERVATION
By Using
Computer Vision

A VISION for Sustainaible Devlopment

REFERENCES AND TECHNOLOGY USED

 https://you.com/

 https://chat.openai.com/

 https://copilot.microsoft.com/

 https://www.google.com/

THANK YOU