

AstroSonic

A provider of leading-edge open-source solutions to modern problems

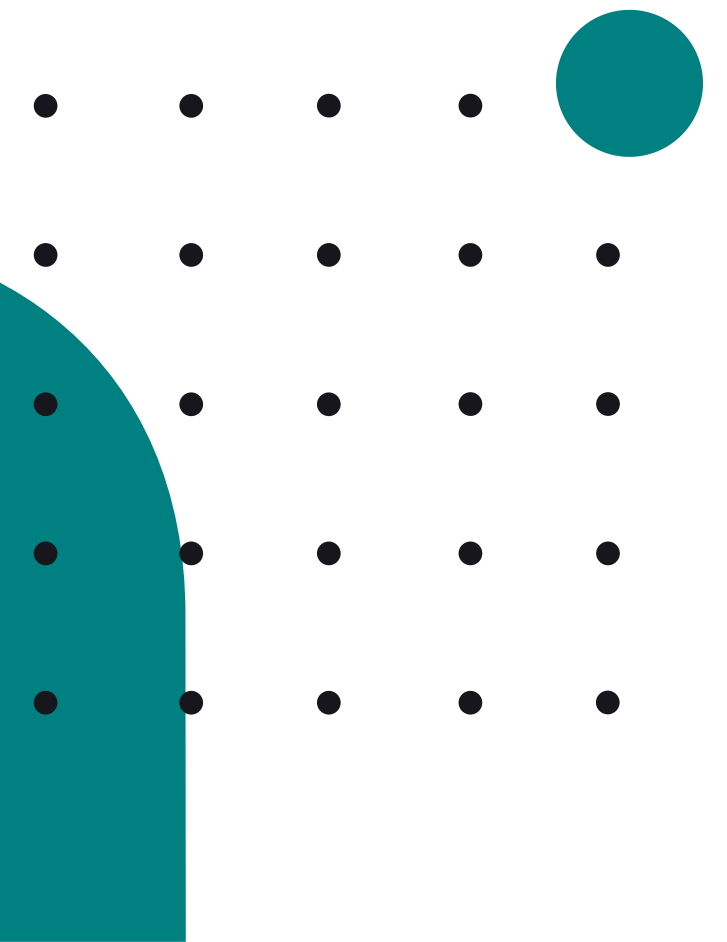


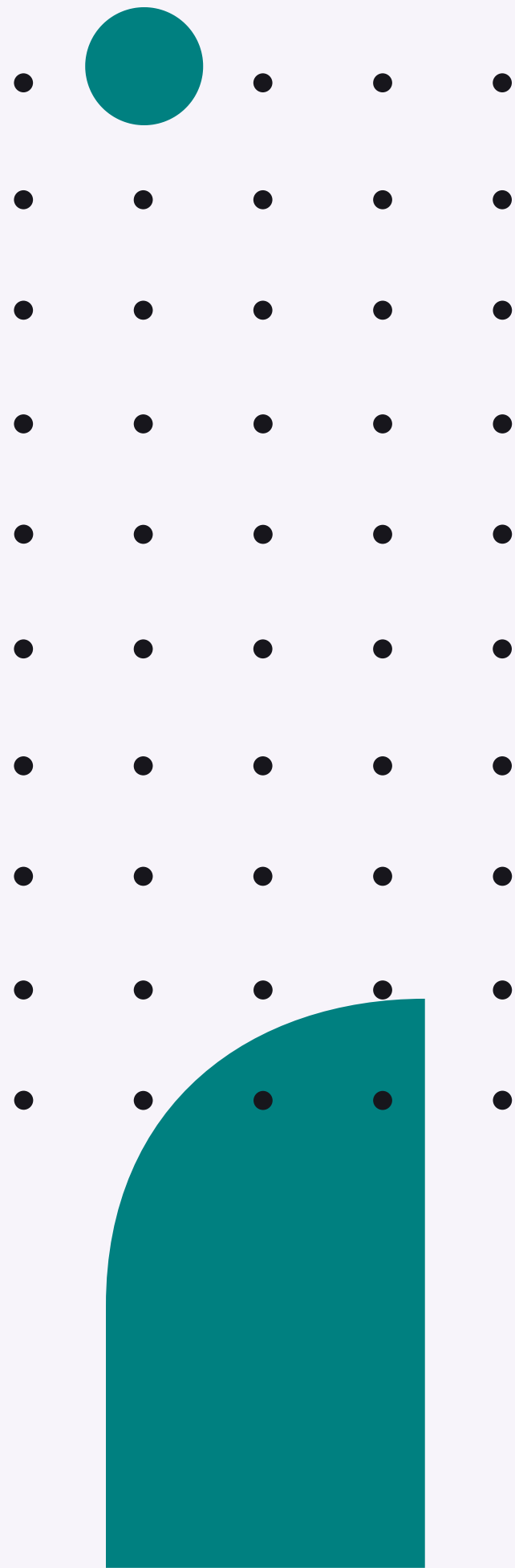
Welcome to AstroSonic

We are a budding open-source community with nothing but computing devices and big dreams in our eyes. We have united here to build cool projects collaboratively while having fun.

**Akashdeep
Dhar**

@t0xic0der





Why open-source?

Why not release your code and projects under a proprietary license?

Imagine being so confident about your creation that you can go out to face appreciations and criticisms of the community. Better yet, if people want to add to your contribute to your project, they are free to do so. The community is all about bright ideas.

In the following slide, we will perform a SWOT analysis on open-source.

● Strengths

- Open codebase
- Collaborative workflow
- Cross technology
- Community interaction
- Trackable contributions

● Weaknesses

- Poor sense of deadlines
- No monetary advantage
- Looks difficult
- Poor corporate hierarchy
- Inconsistent contributions


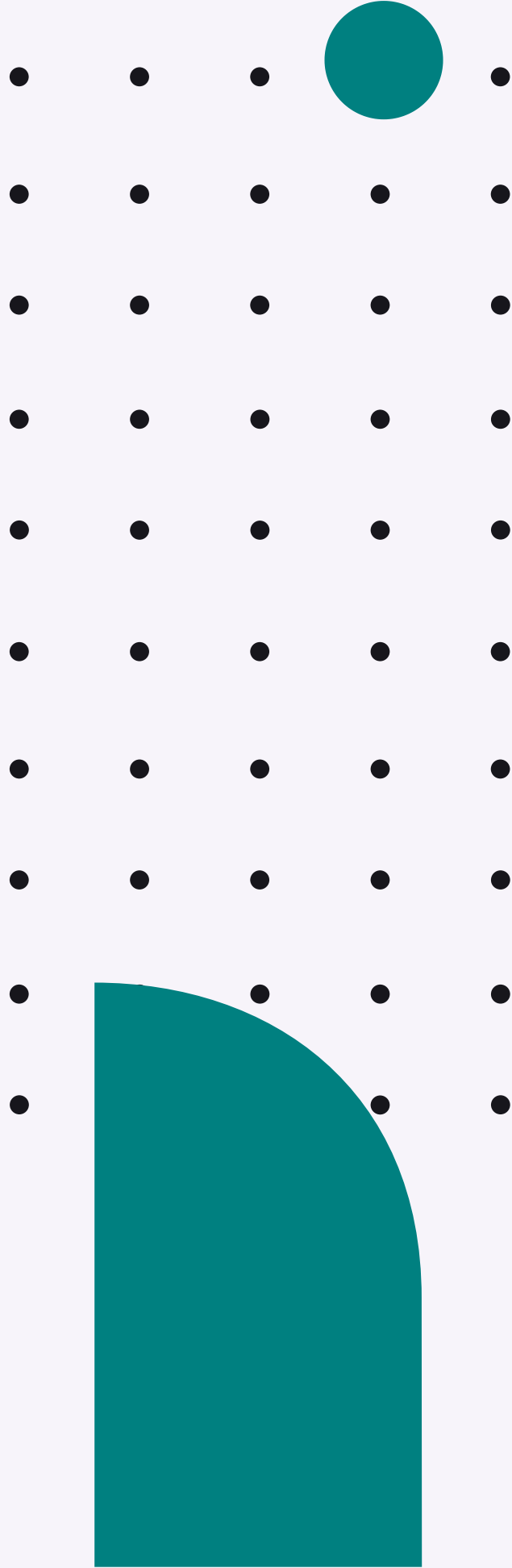
● Opportunities

- Total transparency
- Best of everyone's code
- Limitless domains
- Greater learning
- Documented experience

● Threats

- Project dormancy
- Poor incentive to work
- Less occupied by people
- No single control
- Difficult to keep changes





Different divisions. Distinct ways to contribute!

We have a total of seven divisions with their own distinct sets of skills and expertise. If you think you fall in it, you are more than welcome to fulfill those tasks. These divisions would not divide you into teams though as teams are purely based on what project you are up to. It is certainly possible to have people from multiple divisions to be in the same team just as much as it is possible to build a team entirely with members from a single division.

● **Architecture**

You have a strong sense about how things should work and why they should work the way you specify them to.

● **Design**

You feel there is something wrong with how things work right now and you can definitely do innovations to make it better.

● **Service**

You realize that there is a lot of code and systems that perform shabbily and someone has to get in and make things right

● **Development**

You are good with programming languages and your logic hits bullseye most of the time. You like to spend time with IDEs.

● **Frontend**

You understand the fact that a good project would not make a great impact among users if it fails to look and feel good

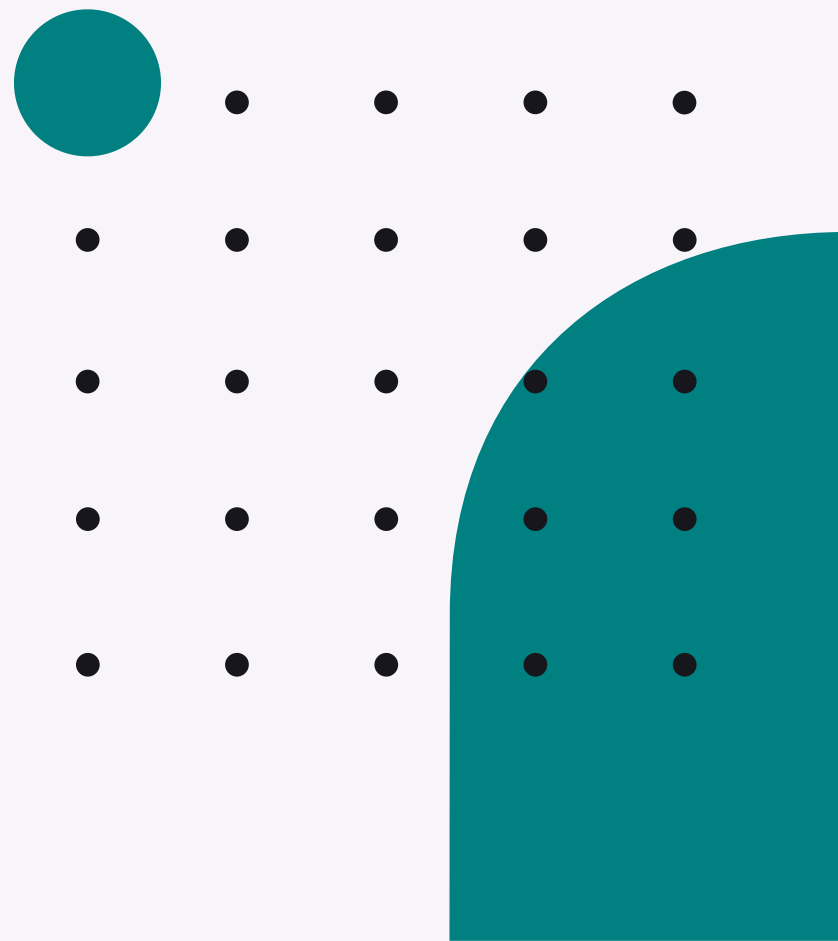
● **Documentation**

You see that there are a lot of people around who cannot quite get into development for things are not quite explained to them.



Workflow

What is the community workflow?



The community follows two distinct kinds of workflow which makes us different from other open-source communities.





What is the community workflow?

Release workflow

A release workflow project has a larger scope and a definite deadline. These can add significant qualitative value to your experience but also requires greater contribution from your end. If you are looking for a challenge and can dedicate time towards building a really awesome project, you might want to join this workflow.

Rolling workflow

A rolling workflow project has a smaller scope and an indefinite deadline. These can add okayish qualitative value to your experience in exchange of much lesser contribution from your end. If you want to take it nice and slow as you are unable/unwilling to dedicate time to build a project, you might want to join this workflow.

Problem Statements that Need Help

**Mohit
Gurav**
@mohitgurav

These are some cool projects that are already in progress. Look no further than the projects here if you want to get directly to business.

You can view the projects that we have been doing at <https://github.com/astrosonic/>



Current Projects

Sanctuary

A secure synchronous lightweight chatroom with zero logging and total transience

FORGE

A protected Directive Transfer Network with support for Web Application and REST API

FEAST

Using deep learning for feature extraction & augmented superimposition technology



Problem Statements as Project Ideas

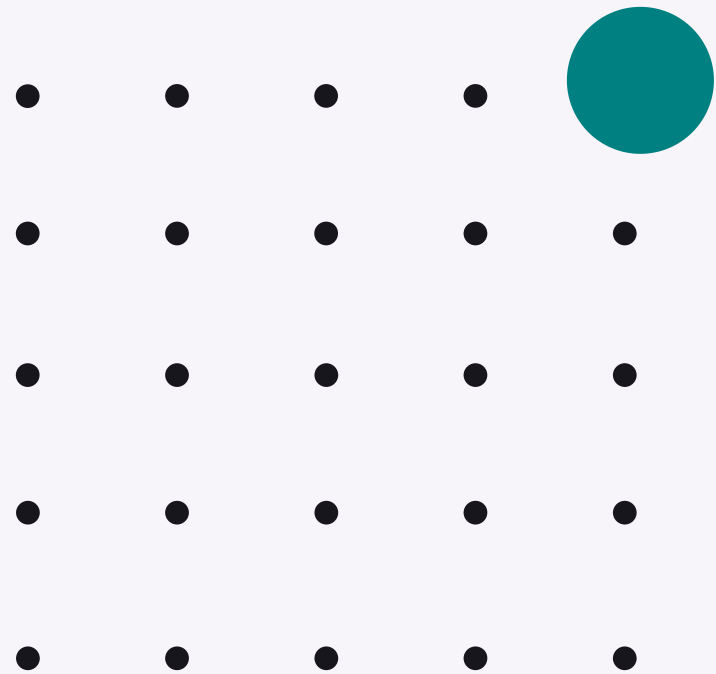
**Mahij
Momin**

@khalnayak

Eager to get down to the actual stuff? We have a set of cool and demanding problems statements that can potentially turn into cool projects. This would be explained in the following slides.



A.I. and Deep Learning



Dynamic traffic signals



- Emergency control procedures
- Ambulance detection and lane traffic control

Augmented reality powered navigation system

- Realtime navigation

Dynamic Traffic Signals

Current situation

Static signals are unable to cope up with the increase in traffic during active hours.

What makes it bad

There is a need of traffic warden to control traffic flow inspite of the signals work.

It can turn worse

Unhandled traffic clogs can make matters worse during emergency conditions.



How we step it up for better?



Active hours awareness



- We can put cameras to use to determine the congestions in particular lane.
- Node architecture and determining lane intersections to maintain use of one intersection at a time.

Emergency detection

Signals will automatically change according to path of any emergency vehicle - be it an ambulance or a firetruck.

Leading edge feature

Detecting motorcycle riders with no helmet equipped. Training a deep learning model to detect the riders at fault.



Augmented Reality Navigation System

Inspired by Niantic LLC

This idea has been inspired by Pokemon GO with an innovation in using augmented reality to detect locations in real-time and routing the user to pre-recorded location

Integrations x 100

This is expected to be easy to use when complemented with Google Maps and such integrations would make things easier and user-friendly for the adaptors

Operation regulations

**Ankit
Sinha**
@Ank221199

We believe that it is rules that make us humans and without them, we are no different than animals. Even our community has a set of rules mandated to ensure the smooth functioning of all operations. The fact that you are a member of the community means you accept the regulations stated here <https://astrosonic.netlify.app/rules/>.

