**Greetings**

Good evening everyone and thank you for joining us today for this presentation. My name is Vishal and I along with the Northstars team am here to present our project – STAR App to this esteemed panel.

First and foremost, I would like to express our sincere gratitude to the panel for taking the time out of their busy schedules to evaluate our project. We understand the effort and dedication it takes to thoroughly review each submission and we are honoured to have the opportunity to present our work to you today.

We have put in countless hours of research, development, and testing to create a high-quality product that we are proud to present today.

In this presentation, we will walk you through the features and functionalities of our project, highlight the unique aspects that differentiate us, and share the challenges we faced during the development process and how we overcame them.

We are excited to showcase our hard work and demonstrate how our project can benefit individuals and organizations alike. Thank you again for this opportunity, and we look forward to your feedback and questions at the end of the presentation.

With the help of these slides we would like to take you through our journey of the last 4 weeks.   
To start with, I'd like to quickly introduce you to our team

**Project Overview**

(Greetings) I would like to take your attention to the business need for StarApp, and give you a brief overview about the app before we get to the nitty-gritties of the app.

In a perfect world, every employee works for some fixed number of hours and gets paid for it. But in practice, the hours may vary and so does the pay. Also, an employee can work on multiple projects under multiple managers and It's a complex and challenging task to verify the actual working hours of an employee, and even more daunting to define the compensation for every additional hour an employee devotes to the projects, over and above the regular hours. This is the problem that starapp is trying to cater to.

Starapp provides an oversight where the managers verify the working hours of employees to simplify and streamline the process.

Managers now only have to approve the hours a particular employee has given to their project. And the system will take care of the total overtime if there is any.

In addition to this, based on the schedule adherence and the total overtime request we could generate reports that will provide some useful insight for resources management we will talk about this in detail during the demo. But before that let’s discuss the architecture of our project. (hand over to next)

**Project Architecture, ERD and APIs**

Thankyou, Vishal. Let’s get into the architecture of our application. Here we have three persona (pause) Executive leaders, Employees & Admin. Our architecture design makes our web Application decoupled from the database & our code/components reusable & easy to maintain. To achieve this, we utilized ReactJS and its associated frameworks for the Frontend, while utilizing SpringBoot for the backend. For database management, we opted for MySQL & MySQL workbench. All of these technologies are a part of the open source license and require no to minimal cost in the entire development phase. To improve the overall structure and maintainability of our codebase, we implemented the MVC architecture. Also, we have separate dashboards for executive leaders & employees & employees, we have mail & web notification features.

Considering the application ERD, ERD is designed to take into consideration the business requirements to track work hours & project activities leading to the selection of an RDBMS, & normalization &data source. Here we have 4 master tables and the working hour’s transactional table that is updated whenever a new timesheet is uploaded. Now let’s move on to the APIs, We have 4 micro services with specific APIs: here we have APIs for authentication using the jwt token, API for fetching employees' or manager’s data, updating data [like status & accepted or rejected request status & an API for sending mail to both employee & manager. Next Vansh will explain the agile methodologies.

**Agile Framework**

Thankyou Pooja, In this section of the presentation, we will be discussing agile methodologies :

we had 4 weekly sprints:

our first weekly sprint was the discovery phase in which we started to understand the project and what are its requirements and collect all the all information that was required for

our project and we also designed our web pages on wireframe, and how it would look along with that we also designed our database and all the entity-relationship diagrams in the second sprint, i.e. our designing and development phase 1 we started writing the code, we started

Writing the front-end code along with that we were also working on the backend we created the login page and the dashboard section and the backend APIs were created and then we created the database and we also fetched the real database from the API and displayed it on our front-end In the third sprint, i.e. our development phase 2 we did the integration of our back-end and our front-end and we also did our manual testing and automation testing using selenium and for the API testing we used postman, along with that we also added some features like the filters by which you can filter the approved or rejected requests and we also added one graph section where you can see how resources are being utilized and in which project resources are utilized properly. In the last sprint, i.e. our review phase we finished the project and completely added the graph functionlaity we also worked on our documentation and ppt and we made the changes according to the ppt as suggested by our mentors and buddies

**Ceremonies**

There were multiple sprint ceremonies involved in the day-to-day schedule of the team, we did sprint planning, discussing what work we would do in this sprint and fleshing out how the job would be done. E.g. in 1st sprint planning, one of the things we were supposed to do was wireframing, for which we planned the technology we were going to use, the number of resources we would be allocated to it, and the estimated time it would take to be done.

We also had Daily stand-ups, where we discussed the challenges we were facing with our team and buddies and parked them for later discussion, and we also gave a brief about what we would do on that particular day.

After the Daily stand-ups, we had a parking lot meeting where all the challenges discussed during DSU were discussed in depth, and we all suggested to each other possible solutions.

There was also a weekly sprint demo where we displayed our web application to mentors and buddies, and they gave us suggestions and reviews.

Coming to the last ceremony that we did, i.e. sprint retrospective, where we discussed what did not go well and what could be improved in the next sprint. E.g. According to our requirements, we only had to incorporate accept or reject feature. Still, later we realised that managers could make a mistake or may receive some info later on and might want to change their decision, so we incorporated a request change log which will keep track of every single change and, at the same time, we gave them the option to rethink their decision.

**Quality Assurance**

Now, coming to the quality assurance part. We know that in any project, quality assurance is quite important to ensure that every release should be of optimum quality standards. So, these are the technologies that we used. For static application security testing(SAST), we used SonarCloud. For API testing, we used Postman and for automation testing, we used selenium and TestNG.

So, these are the manual test reports that we prepared during the initial phase of our project. We had a test report for testing the login functionality, user dashboard as well as backend APIs. The APIs were tested using Postman. So, let me quickly show you one of these reports.

Later on, we realized that testing of login functionality is a repetitive task and has to be done every time a new functionality is added to ensure that the newly added functionality doesn’t affect it so, we decided to automate it. We used the Selenium web driver and TestNG framework to do multi-browser testing on 3 Web Browsers simultaneously using multithreading. Initially, 24 test cases were run out of which, 9 failed. Other than this, we integrated SonarCloud into our Github repository which automatically scans the newly uploaded code and tells about the vulnerabilities present in the code, it identifies potential bugs and security threats and checks whether the code has followed the required coding standards or not. Ok, let’s have a look on the sonar cloud report.

**Future Scope**

Thank you, Rudraksh. Our software is designed to streamline workflow and improve productivity, but there is room for improvement. We will be incorporating a single sign-on feature to improve our user experience. Till now we are getting data from excel sheets but in the future, we will use MS dynamics sourced data for smooth data streamlining. we will Modernize our Architecture with cloud technologies to maximize our availability and scalability. We will provide better analytics. we will generate more in-depth reports and we will provide graph visualization for better decision-making. Now for eg. If a particular user is overworking/underworking for more than 2 weeks we will generate a red flag. In this way, we will get our Critical users and critical projects. And we will generate our analytics report around that. Now Raunit will handle the learning part of our project

**Learning**

Focusing on the learning part

As a team we have learned the power of peer learning, teamwork, taking ownership, and steep learning curves, Apart from the technical aspect we also learned the importance of interpersonal skills and Collaboration,

By working together and leveraging each other's strengths, we were able to push ourselves, And develop new skills. Going through steep learning curves helped us to achieve our goals and built a successful project, we will be incorporating these in future projects and will be continuing to grow as a team, Moving on to the about us section we have our mentor, 4 buddies, and a team of 8 people, Now We are happy to receive any questions you may have and will do our best to answer them. As we are jumping into the demo but before that, if you have any questions, we will do our best to answer them