

The background of the slide features a dark, slightly blurred photograph of a person's hands interacting with a smartphone. The phone screen displays a map with a complex, glowing green network overlay, possibly representing a pathfinding algorithm or a sensor network. In the top right corner, there is a faint, semi-transparent icon of a gear with several lines radiating from it, symbolizing technology or data processing.

mapGo

CS253: project presentation

made by group 6: WallE(s)

ACKNOWLEDGEMENT

We are deeply indebted to our Instructor In-charge Prof. Indranil Saha, for imparting us the much-needed knowledge to make this project a success.

We also extend our gratitude to our TA In-charge, Mr. Anirudh Nanduri, for his constant support and valuable guidance at each step.

The Team Wall-E(s) is also grateful to all its users for providing us with an opportunity to serve them and their valuable feedback helped us improve our software.

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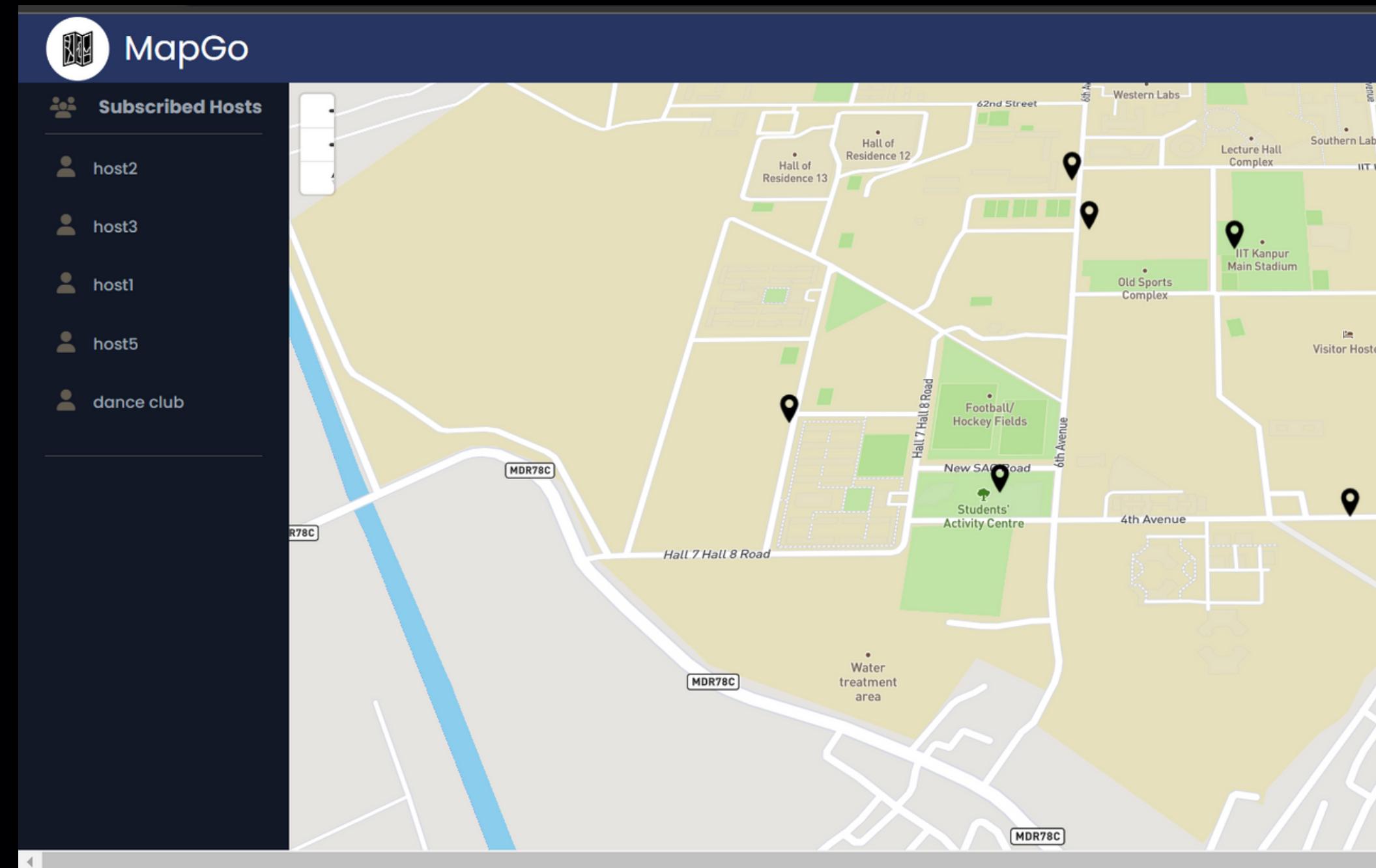
QnA

Ask us anything about the software

APPLICATION OVERVIEW

MapGo is a website developed for the IIT-K junta, which provides the user an all-in-one go-to application to navigate through the campus as well as schedule, organise and announce events. The application provides a personalised maps where they can mark their areas of interest, and use it to navigate through the large campus.

Organising bodies get to use this application to announce their events, along with entire details of the event like timings, venue, description, images etc. These events are announced under the label of verified channels, to which a user can subscribe to in order to get the updates specific to that organising group. This feature is also useful to the business and shop owners who can advertise their businesses while also declare if their opening and closing times.

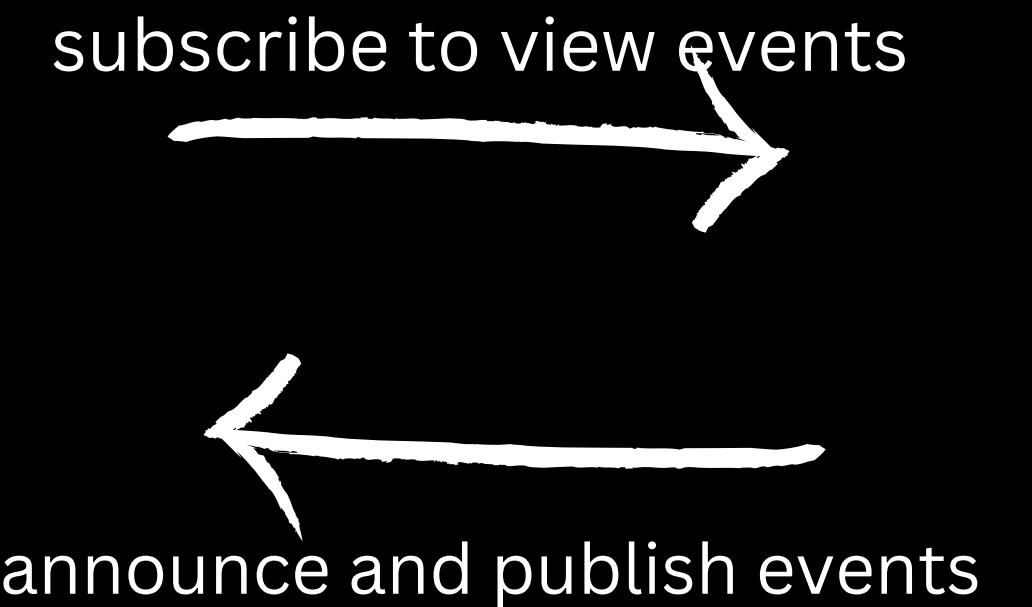


WHO WILL USE MAPGO?



User

This is anyone inside iitk campus with a valid iitk email, who wishes to keep track of the events happening in the campus



Host

This is a hosting group/club/organisation/business inside iitk, who wish to announce their events to the public

WHAT ARE THE REQUIREMENTS TO RUN MAPGO?

For a user to be able to use the application, they need to have a fast internet connection.

A user also needs a valid iitk email to register.

SOFTWARE IN DETAIL

```
3 require File.expand_path("../config/environment", __FILE__)
4 # Prevent database truncation if the environment is test
5 abort("The Rails environment is running in production mode") if Rails.env == "production"
6 require 'spec_helper'
7 require 'rspec/rails'
8
9 require 'capybara/rspec'
10 require 'capybara/rails'
11
12 Capybara.javascript_driver = :webkit
13 Category.delete_all; Category.create!(name: "Sports")
14 Shoulda::Matchers.configure do |config|
15   config.integrate do |with|
16     with.test_framework :rspec
17     with.library :rails
18   end
19 end
20
21 # Add additional requires below this line to include more spec support files
22 # Requires supporting files with the same names as their containing specs
23 # in spec/support/ and its subdirectories. This way, you can keep
24 # run as spec files by default. You can also run them directly
25 # in _spec.rb will both be required automatically.
26 # run twice. It is recommended that you do not mix this with
27 # end with _spec.rb. You can configure this behavior with the
28 # option on the command line or in your RSpec configuration
# option for 'mongoid'
No results found for 'mongoid'
```

Design of the application

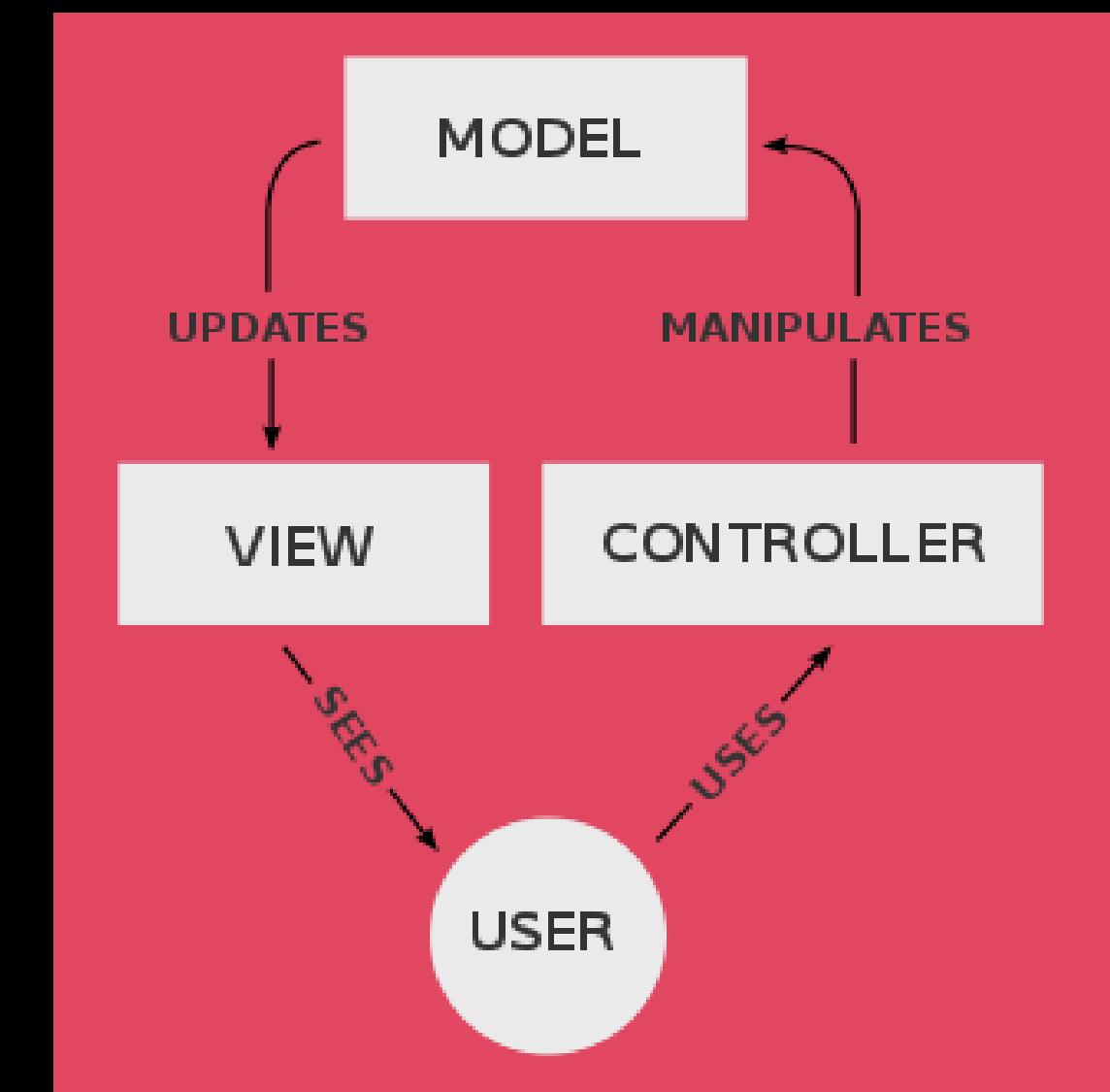
Implementation decision

Demonstration

DESIGN OF MAPGO

uses a MVC Architecture to achieve efficient structuring of web application

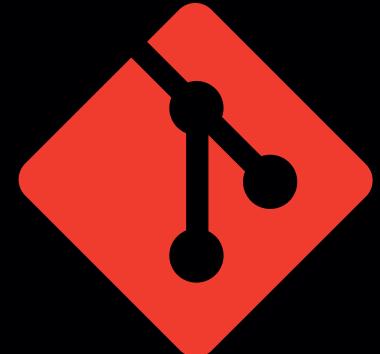
MVC is preferred for web application for its efficient distribution of code into 3 components.



IMPLEMENTATION DECISIONS



Version Control environment



git: used as our version control system



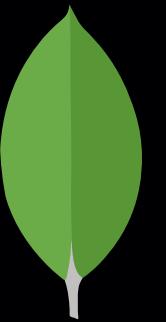
Github: used to host git repositories and collaborate with other team members.

git provides the feature of branching which made it easier for our team to distribute programming different features and merge them once done.

github makes hosting, cloning and collaborating on the same repository very easy using its user friendly graphical interface and features.

DEVELOPMENT TOOLS

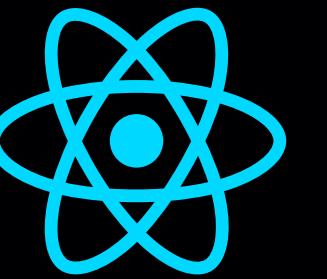
We used MERN tech stack, making the application primarily written in javascript



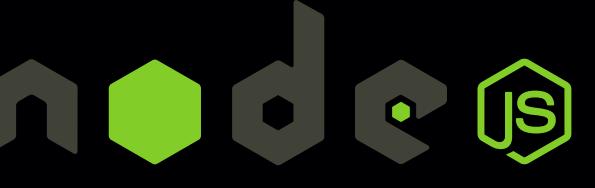
Mongodb: to store non
SQL database

Express

Express: js framework with
many functions provided for
web application



React: js framework for
frontend dev, single
page application



Nodejs: to run
Javascript on the
server side

DEPENDENCIES

These are the 3rd party applications that are used by mapGo

Mapbox: Mapbox is a mapping and location cloud platform for developers. It is used in our application for marking current events and navigate through

Nodemailer: Nodemailer is a node library that enables one to send mails that can be generated using javascript. It is used to send OTP.

JSON Web Token: Popularly known as jwt, is a library used for login functionality and render user-specific pages.

DESIGN TOOLS

BOOTSTRAP

CSS

JAVASCRIPT

SOFTWARE DEMONSTRATION



TESTING IN DETAIL

Why testing team separate is better? methods of testing....

We had an Independent Testing team composed of 4 of the group members. The reason for this was that both the processes were running simultaneously, as soon we found a bug the soon it got fixed. we can identify issues that the development team may have missed due to their proximity to the code

We majorly have done manual testing. For that, we used **Postman** for unit testing and worked upon various test cases to detect any possible bugs.

At the end of our software testing, we worked upon the bugs detected by our testing team and those reported by the other team.



FUTURE DEVELOPMENT PLANS



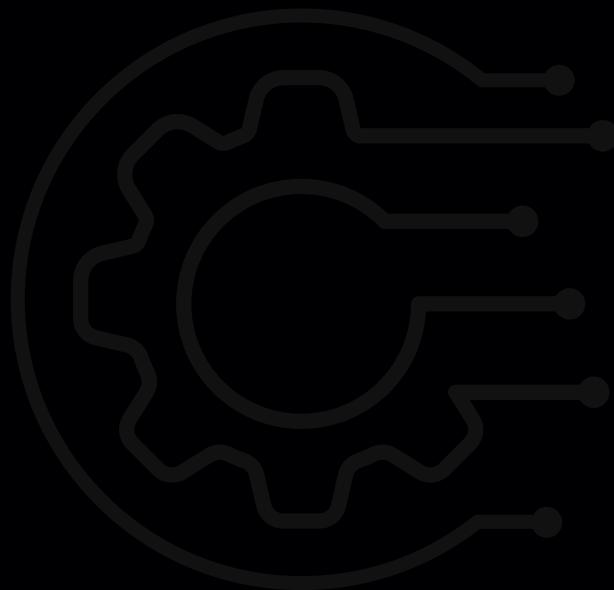
The following are some of the features that we have decided to implement in order to improve the application:

GROUPS: Each user shall be able to group together their friends in order to announce events only to that group.

Voice Commands for map and directions: implementing similar features as to google maps software to improve user experience.

User-suggested host and event suggestions: applying search based algorithm to suggest events and hosts that a particular user might be interested in based on their past activities.

LESSONS LEARNT



The systematic process in which a software is built.

We learned to appreciate the process followed in building much complex softwares by a large team, and how documentation, communication and collaboration takes place at that scale.

Importance of Documentation

Every document produced related to the software was felt extremely necessary throughout the development process.

Clean coding methods are a MUST!!

Working on the same repository as a team, it was seen that it's extremely necessary to write easily-understandable code following good practices.

Rigorous Testing

There's always some bug or error that goes unnoticed to the naked eyes of the developer. Unbiased, sharp-eyed testers are just as much needed for the development process as the programmer. For our software, we did manual testing. But in future, we could do automated testing.

Team-WallE(s)

Abhinav Garg	210029
Chouhan Jayesh	210296
Harshini Dola	210418
Mondem Shanwitha Yadav	210628
Nirmal Prajapati	210735
Prachi Choudhary	210732
Priyanshu Meena	210785
Rohan ravi	210870
Sumit Kumar Bairwa	211074
Ujjwal Gautam	211122
Yashas D	211199

Q&A

You may ask us anything about the application and the development process

THANK YOU

