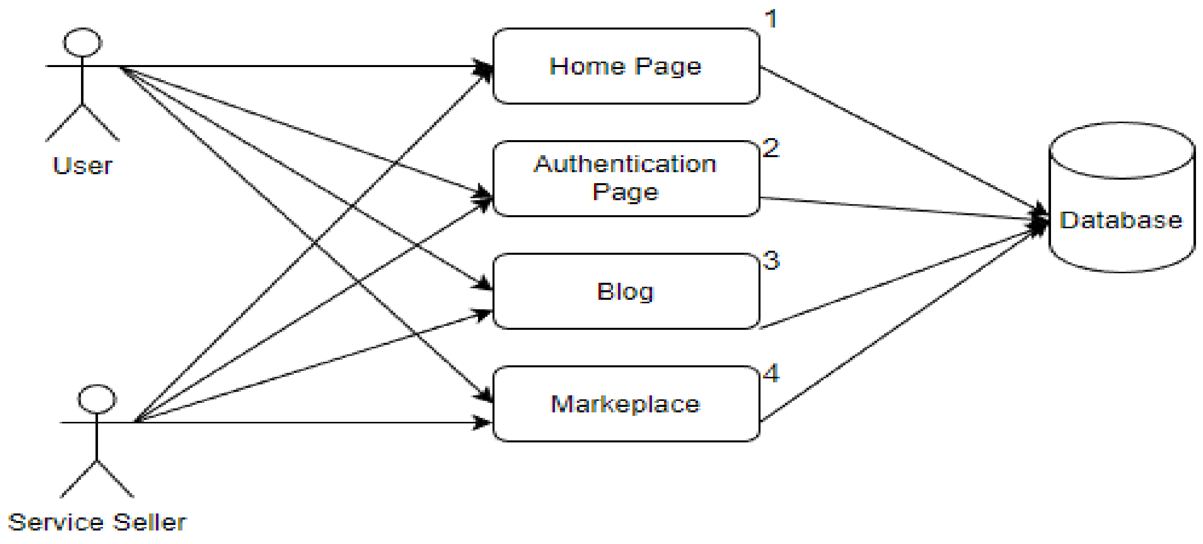
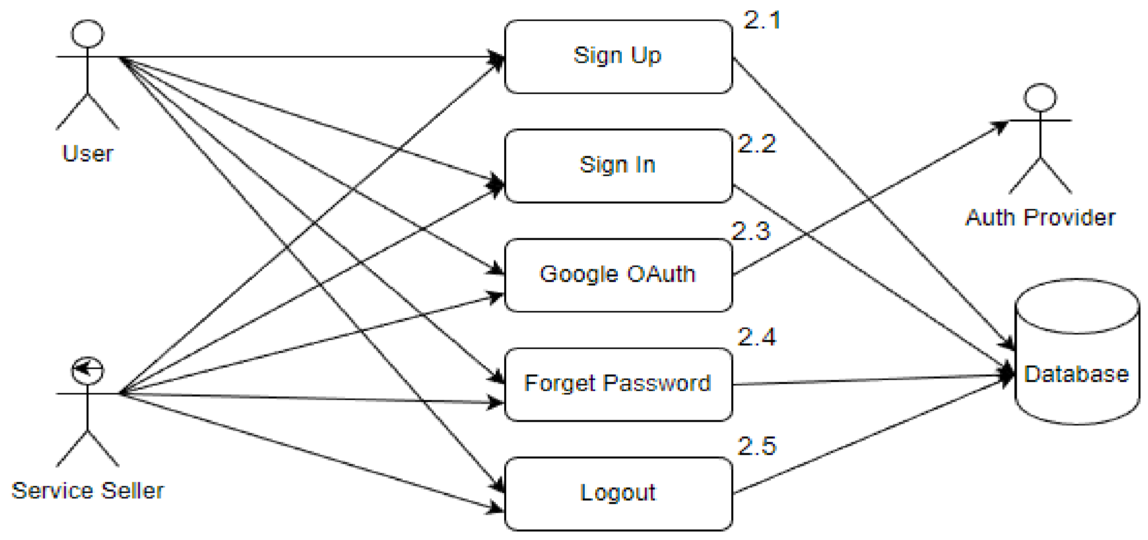
Problem statement

1. People do not visualize the catastrophic effect of not recognizing different sustainability problems. People cannot connect them self to it.
2. Solution problems in a sustainable way is not so easy. It needs a lot of data.
3. To grow a habit a platform is needed where people can share their ideas and thoughts about how they overcome some problems. How they follow sustainable habits. Sometimes people want to use the sustainable service but they don’t know where they will find them . How they can use some of the sustainable techniques

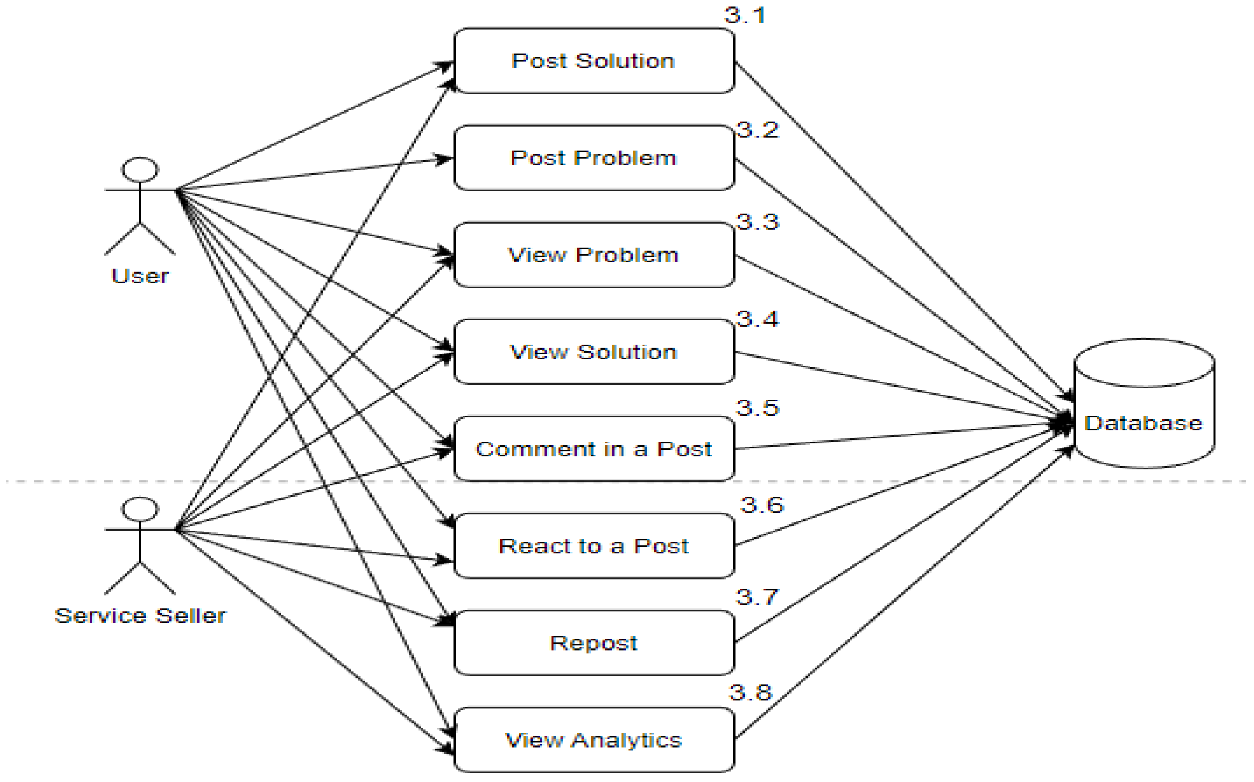
User-Case Diagram



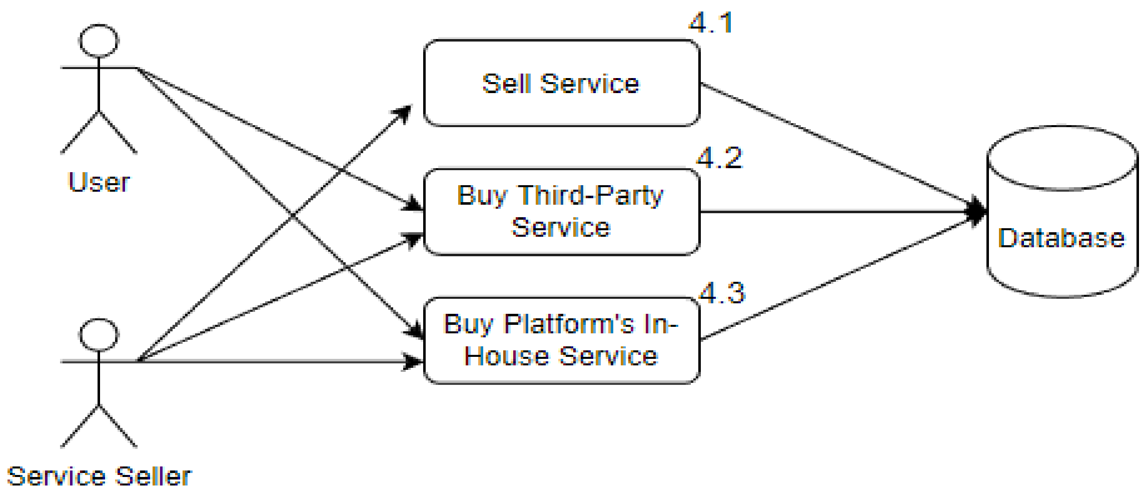
Use Case Level 0



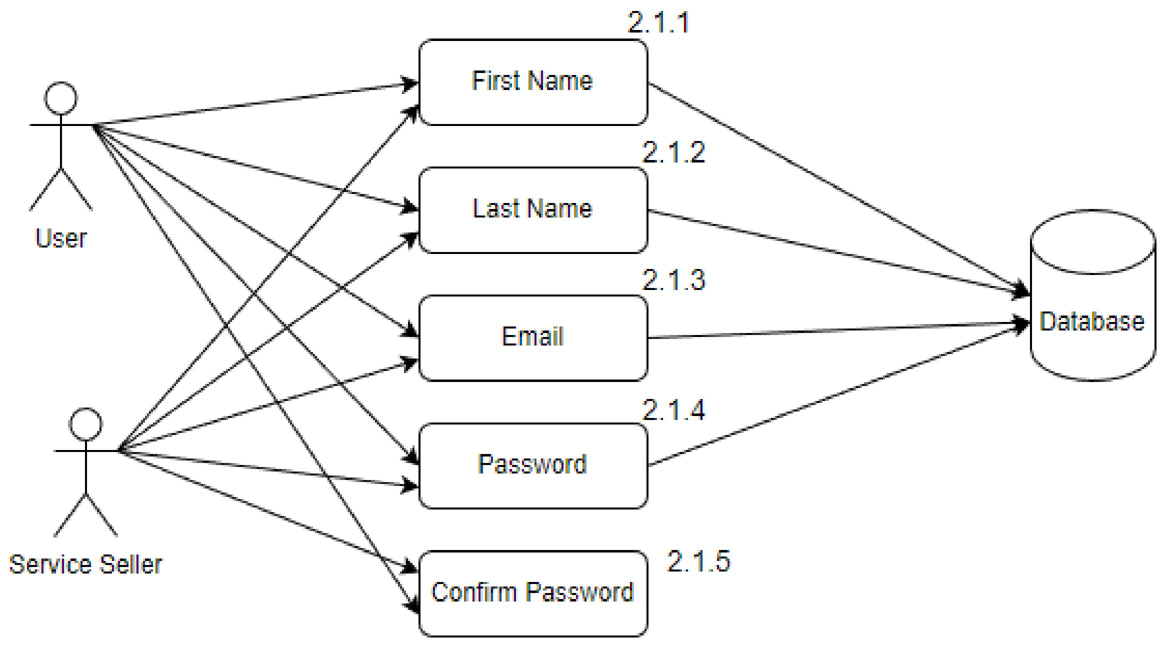
Use Case Level 1



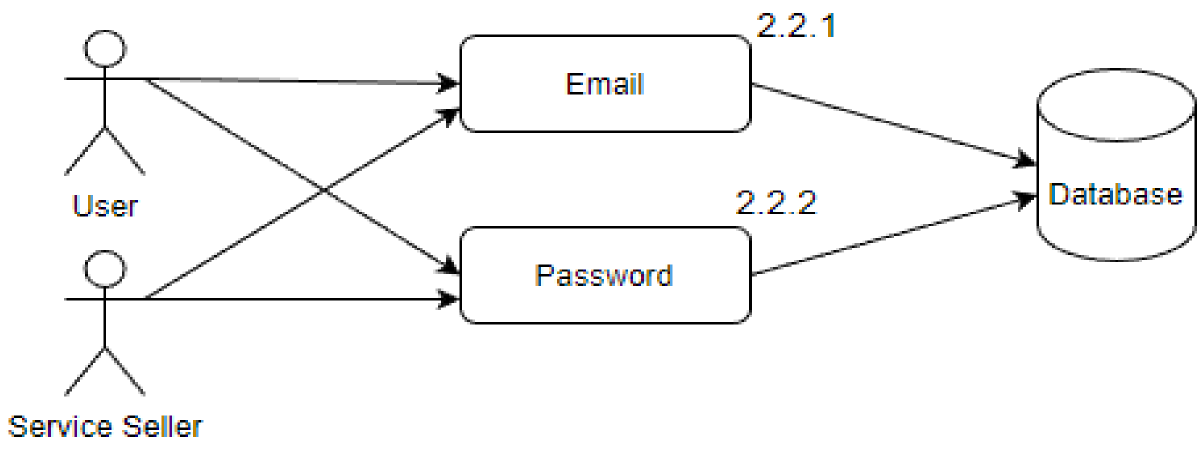
Use Case Level 1



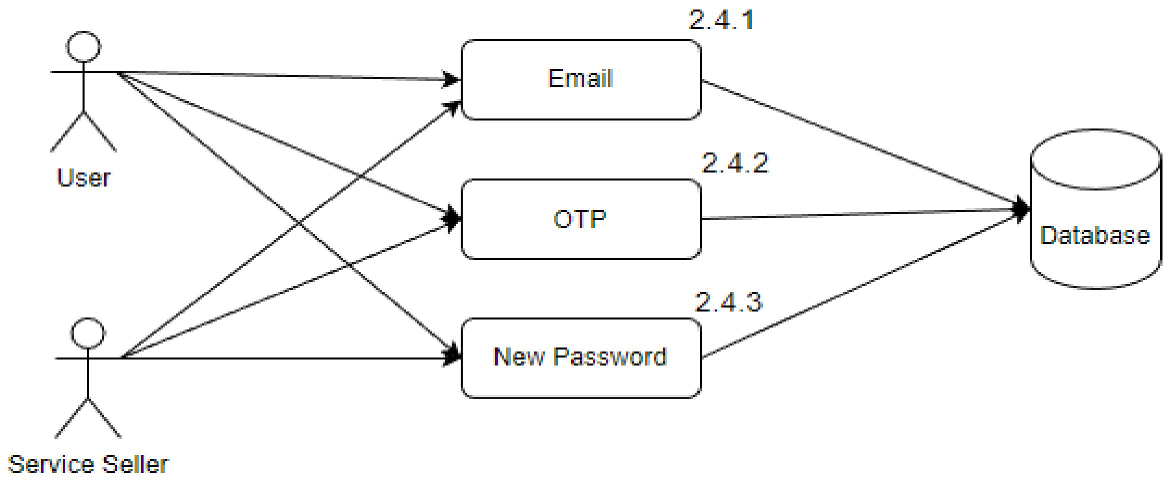
Use Case Level 1



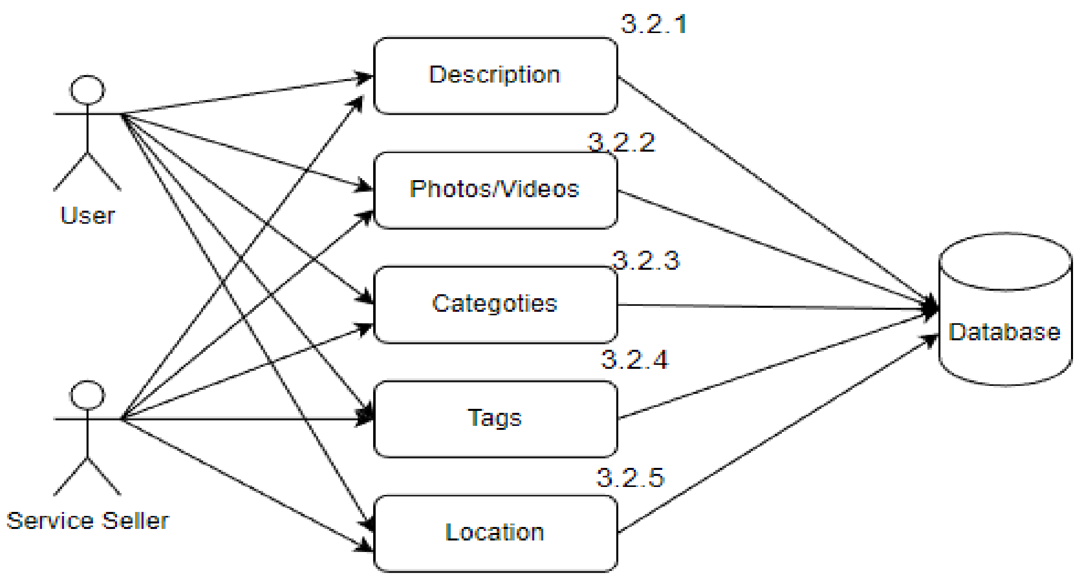
Use Case Level 2



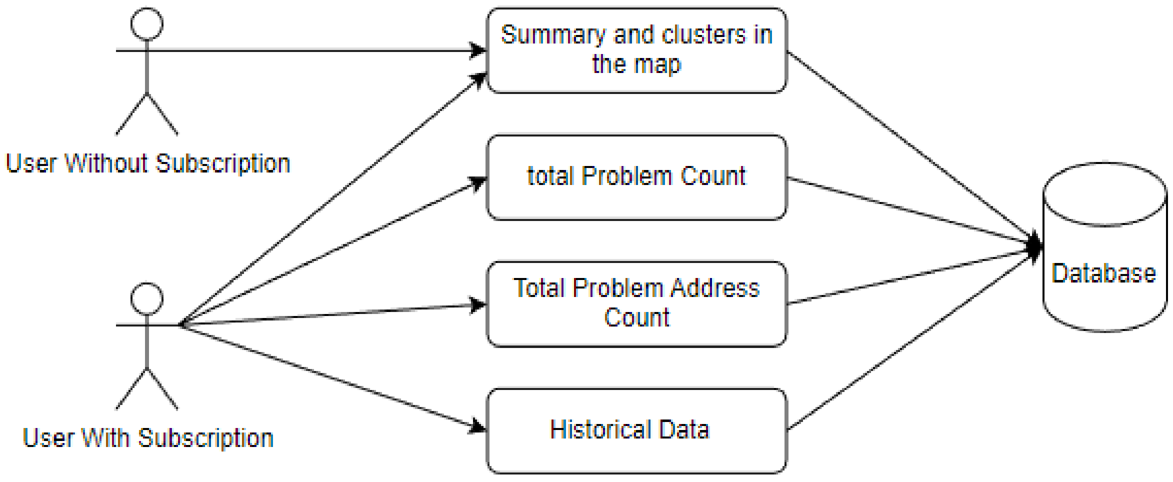
Use Case Level 2



Use Case Level 2

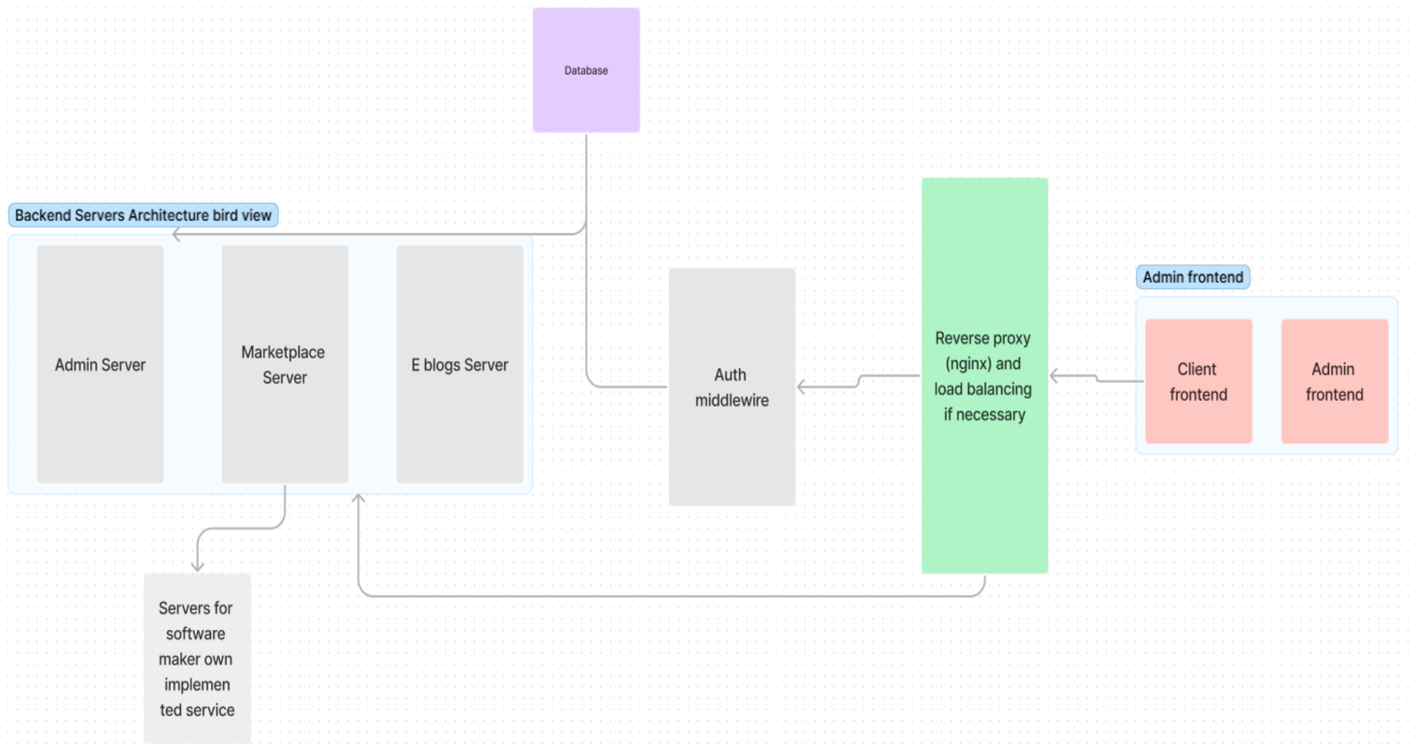


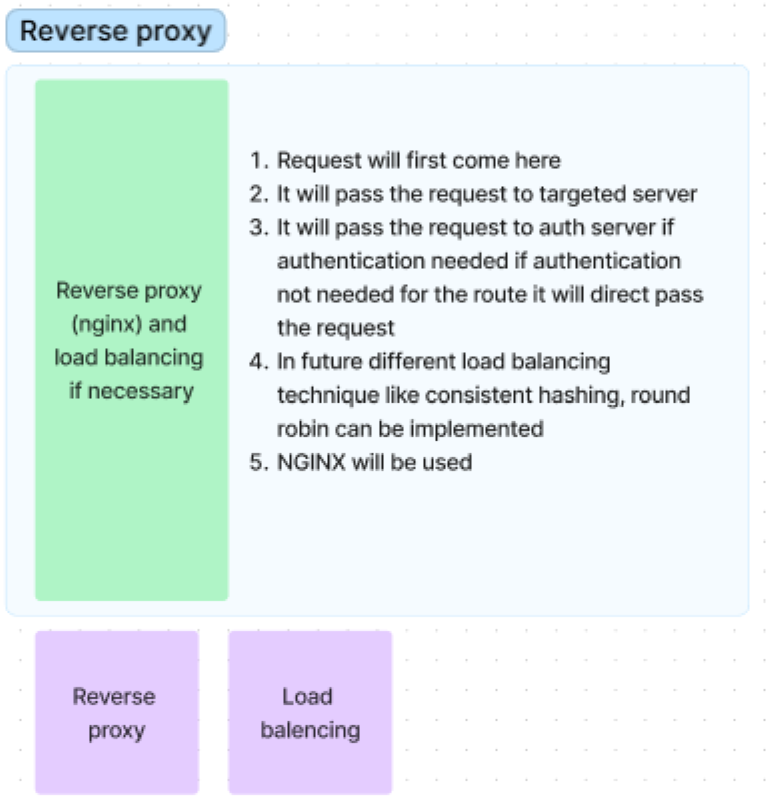
Use Case Level 2


Summary and clusters in the map
total Problem Count
Total Problem Address Count
Historical Data
User Without Subscription
User With Subscription
Database

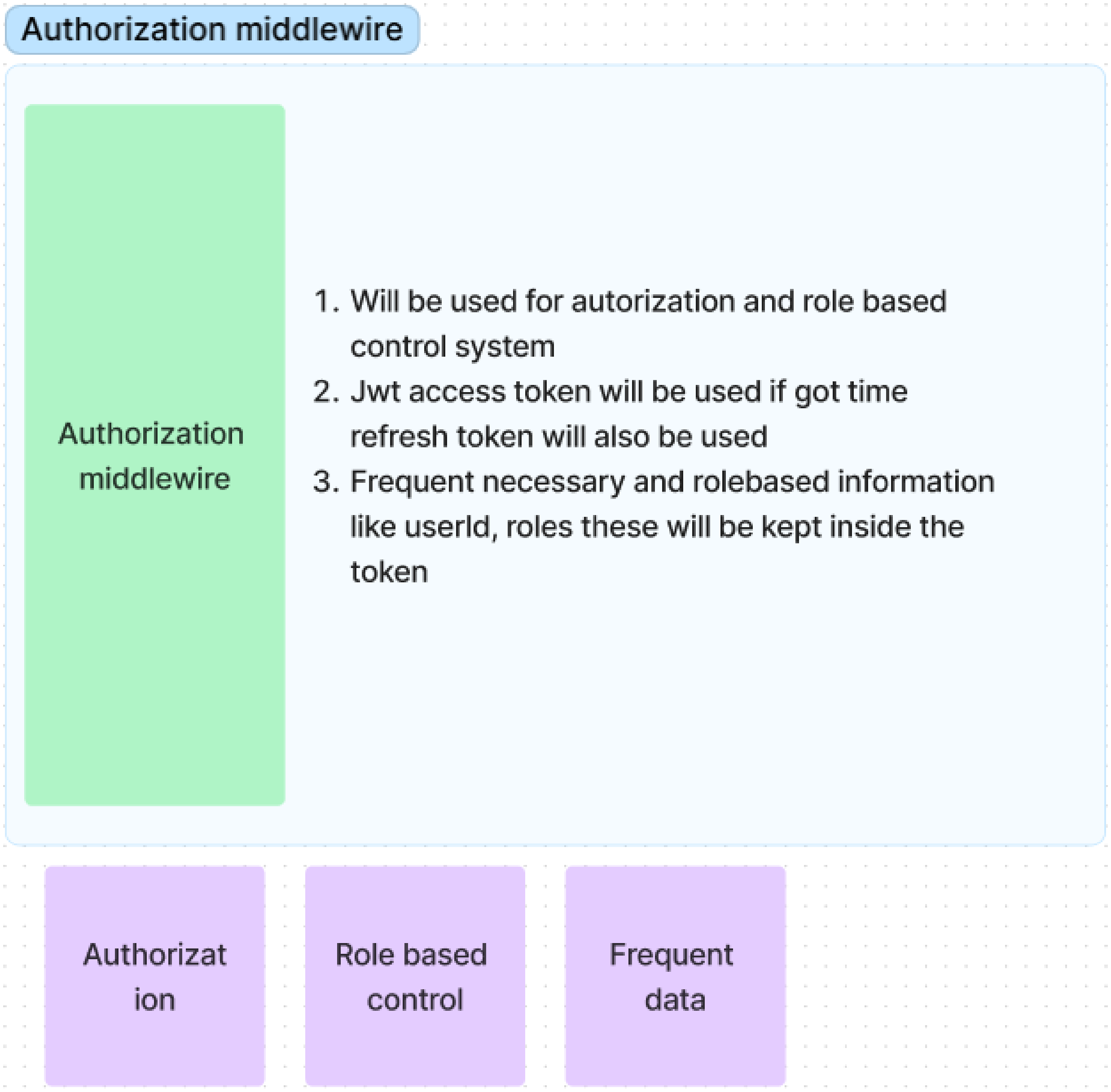
Use Case Level 2

Application Architecture Design/ Blog diagram

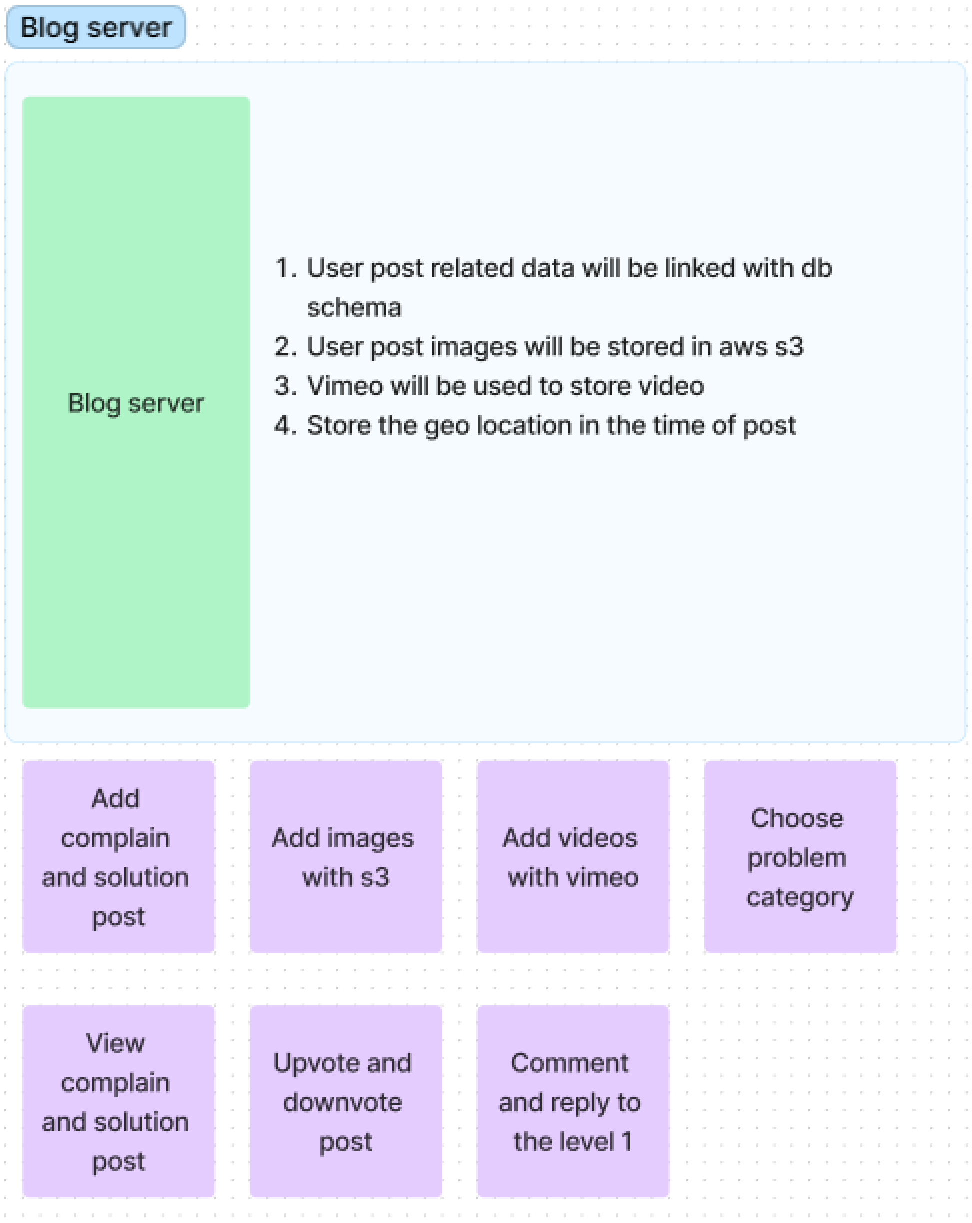

Database
Backend Servers Architecture bird view
Admin Server
Marketplace Server
E blogs Server
Servers for software maker own implemen ted service
Auth middlewire
Reverse proxy (nginx) and load balancing if necessary
Admin frontend
Client frontend
Admin frontend



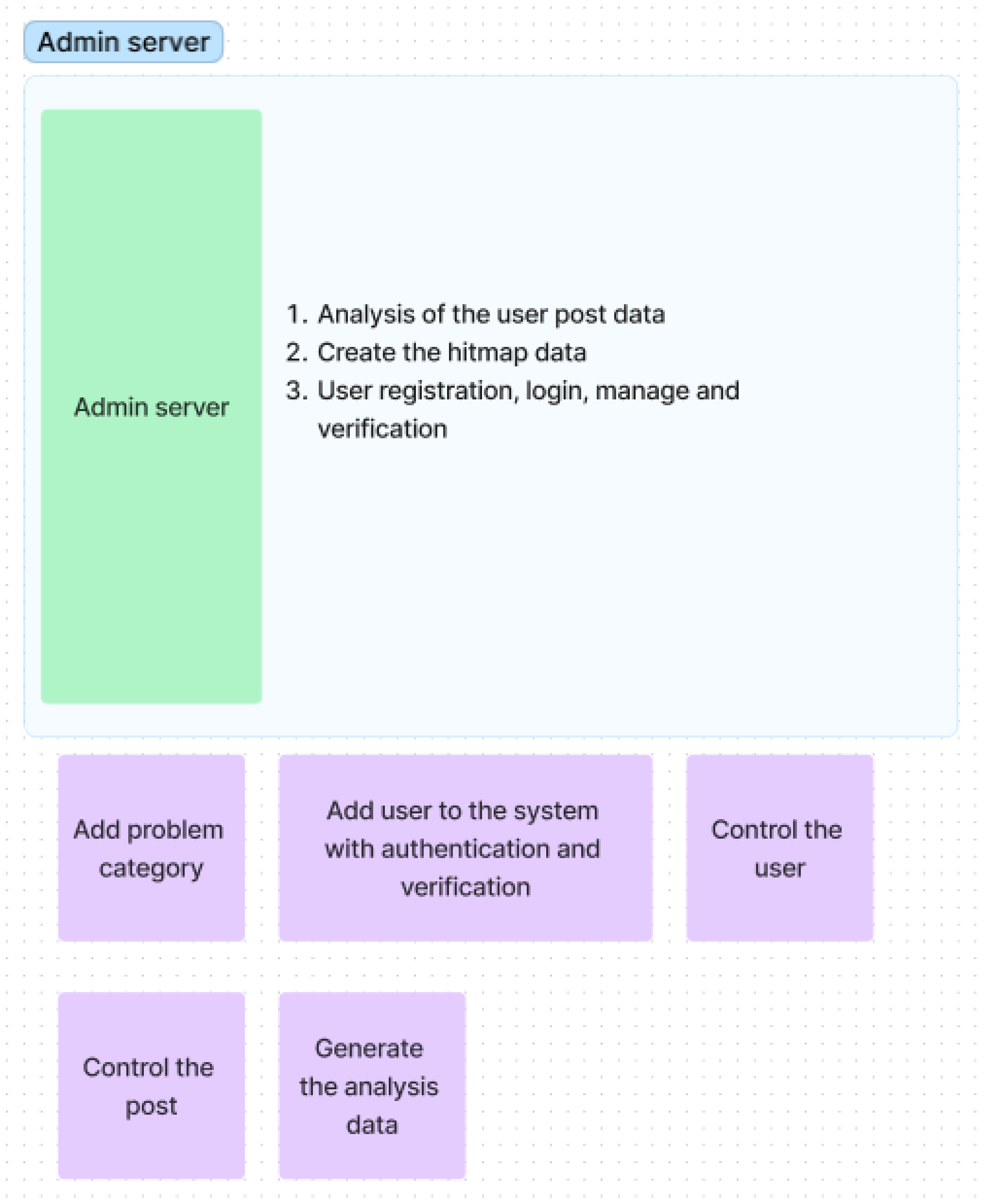
1. Request will first come here
2. It will pass the request to targeted server
3. It will pass the request to auth server if authentication needed if authentication not needed for the route it will direct pass the request
4. In future different load balancing technique like consistent hashing, round robin can be implemented
5. NGINX will be used



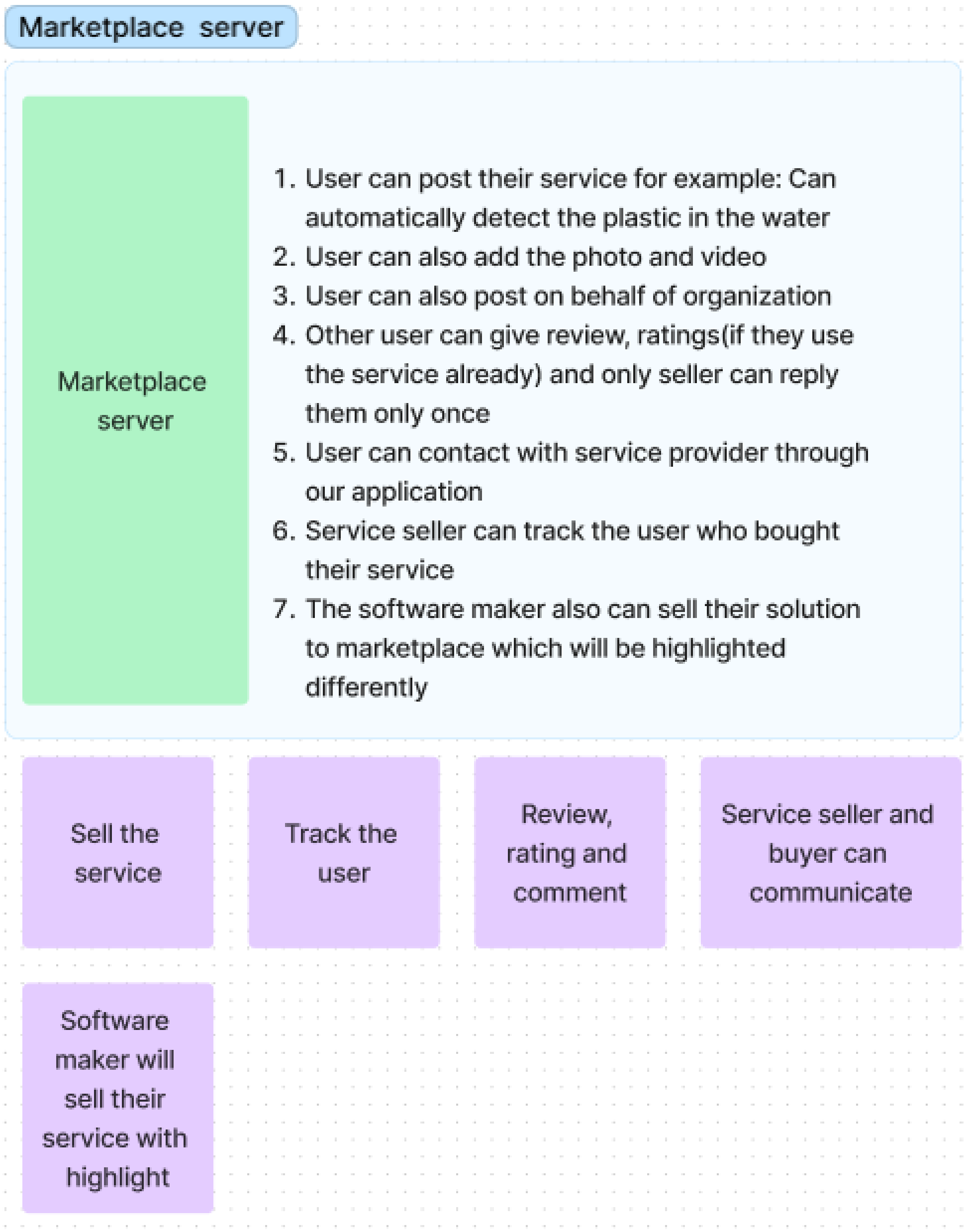
1. Will be used for autorization and role based control system
2. Jwt access token will be used if got time refresh token will also be used
3. Frequent necessary and rolebased information like userId, roles these will be kept inside the token



1. User post related data will be linked with db schema
2. User post images will be stored in aws s3
3. Vimeo will be used to store video
4. Store the geo location in the time of post

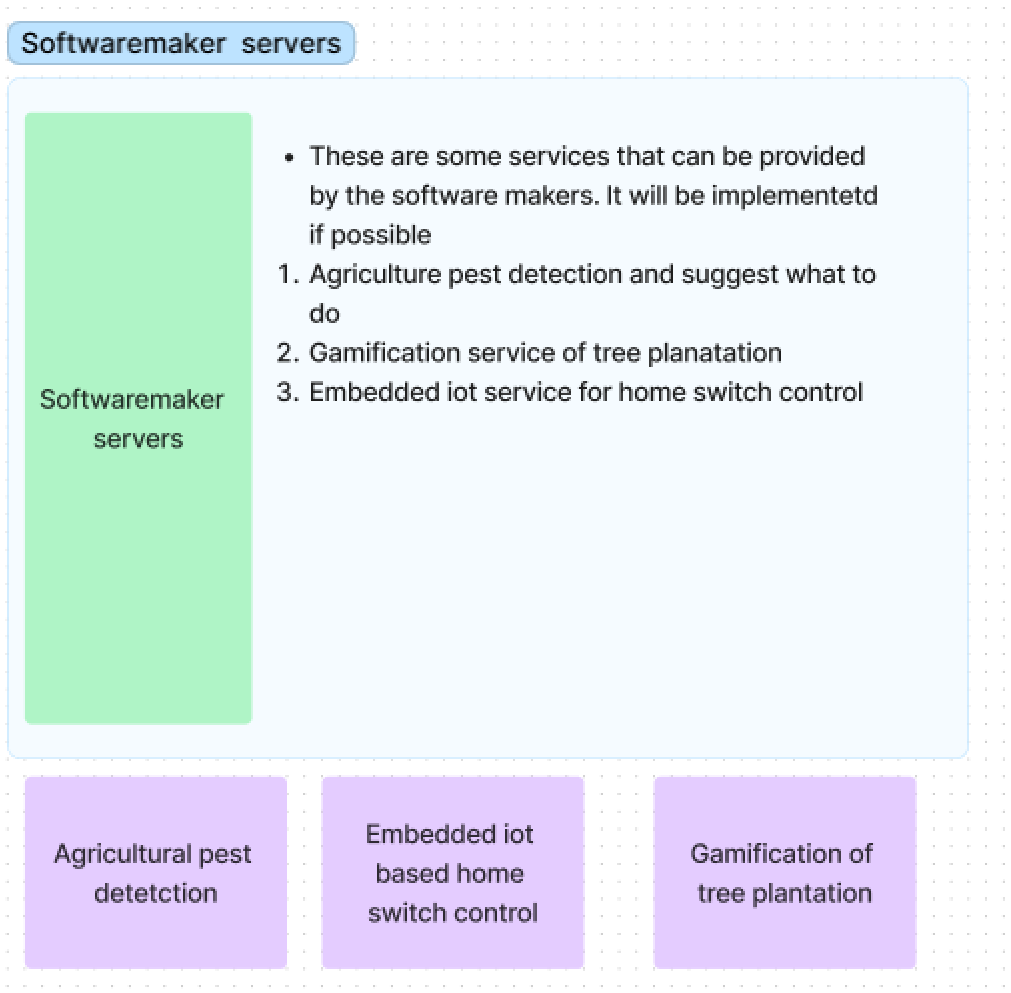

Admin server
Admin server
Add problem category
Add user to the system with authentication and verification
Control the user
Control the post
Generate the analysis data

1. Analysis of the user post data
2. Create the hitmap data
3. User registration, login, manage and verification



1. User can post their service for example: Can automatically detect the plastic in the water
2. User can also add the photo and video
3. User can also post on behalf of organization
4. Other user can give review, ratings(if they use the service already) and only seller can reply them only once
5. User can contact with service provider through our application
6. Service seller can track the user who bought their service
7. The software maker also can sell their solution to marketplace which will be highlighted differently

Sell the service
Track the user
Review, rating and comment
Service seller and buyer can communicate
Software maker will sell their service with highlight



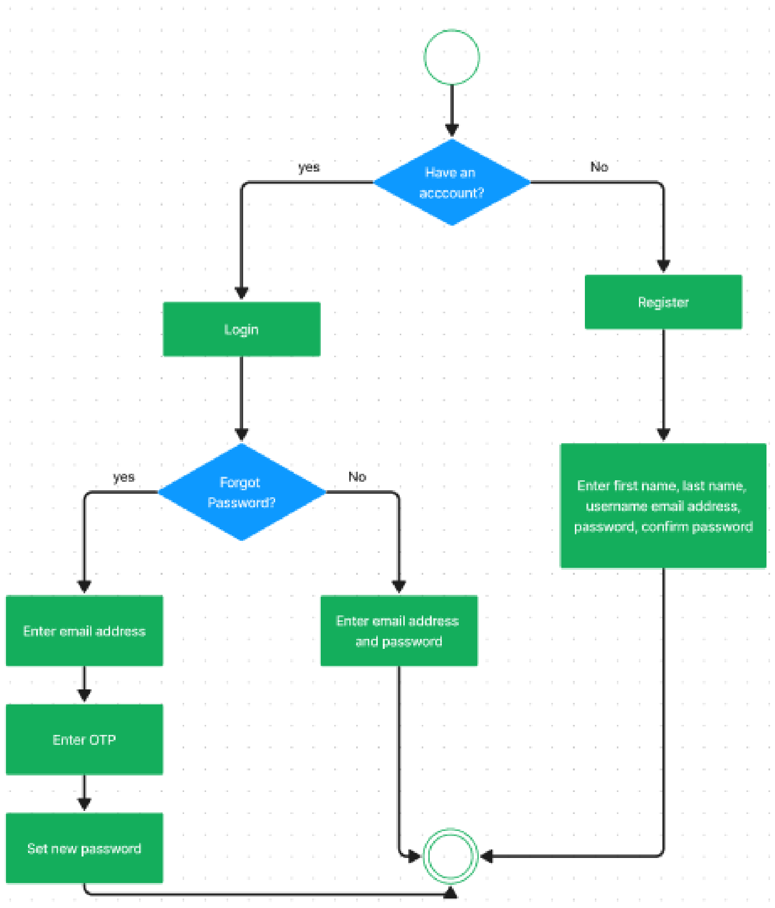
Softwaremaker servers
Softwaremaker servers
Agricultural pest detetction
Embedded iot based home switch control
Gamification of tree plantation

- These are some services that can be provided by the software makers. It will be implementetd if possible

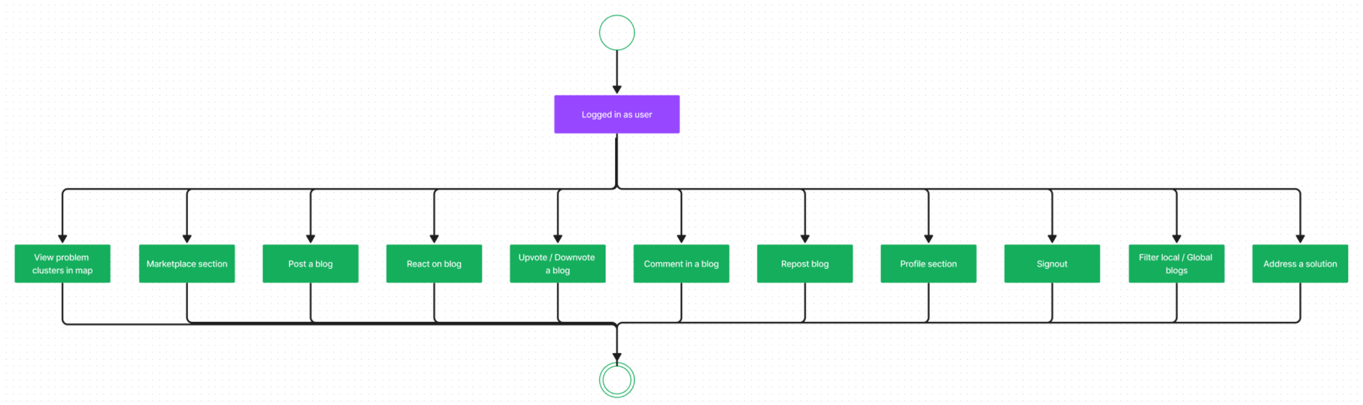
1. Agriculture pest detection and suggest what to do
2. Gamification service of tree planatation
3. Embedded iot service for home switch control

State Diagram

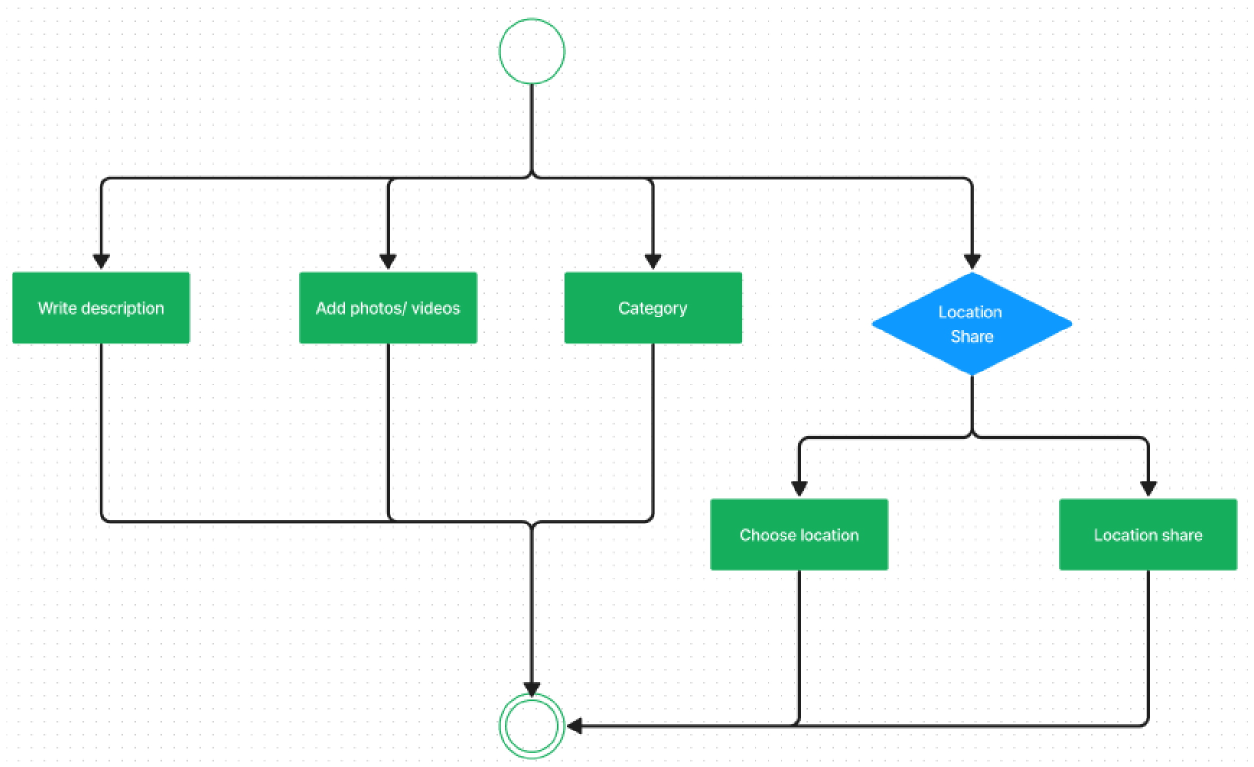
User Authentication


Have an acccount?
yes
No
Login
Register
Forgot Password?
yes
No
Enter first name, last name, username email address, password, confirm password
Enter email address
Enter email address and password
Enter OTP
Set new password

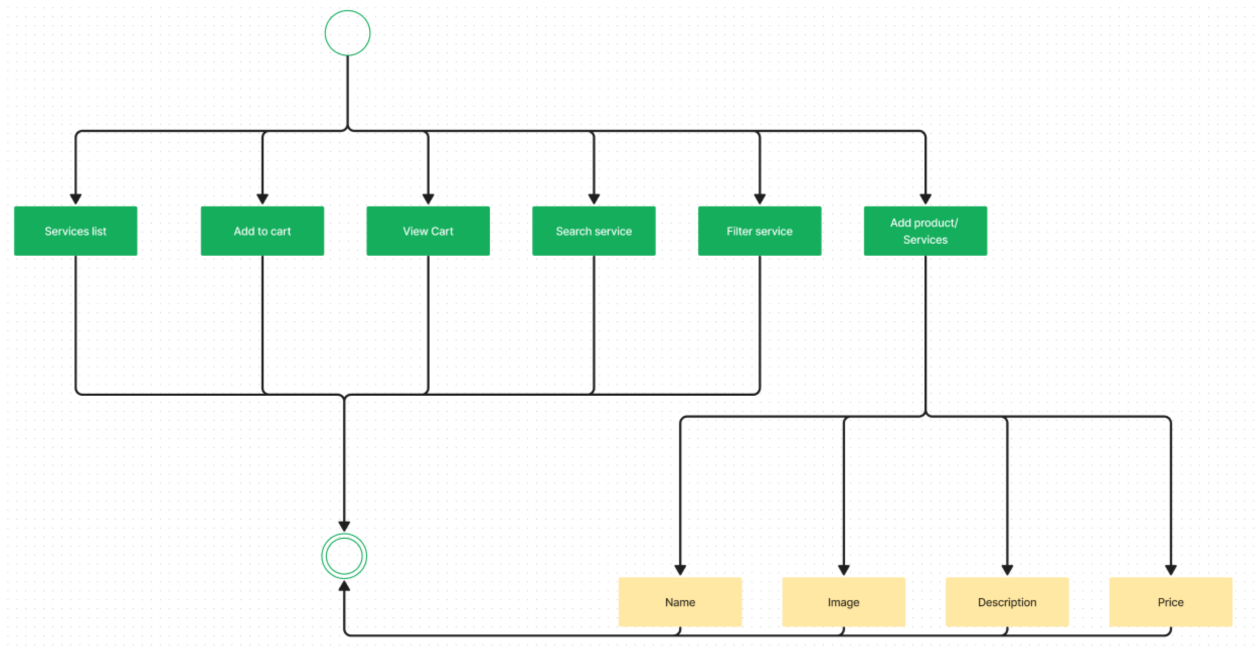
Home page



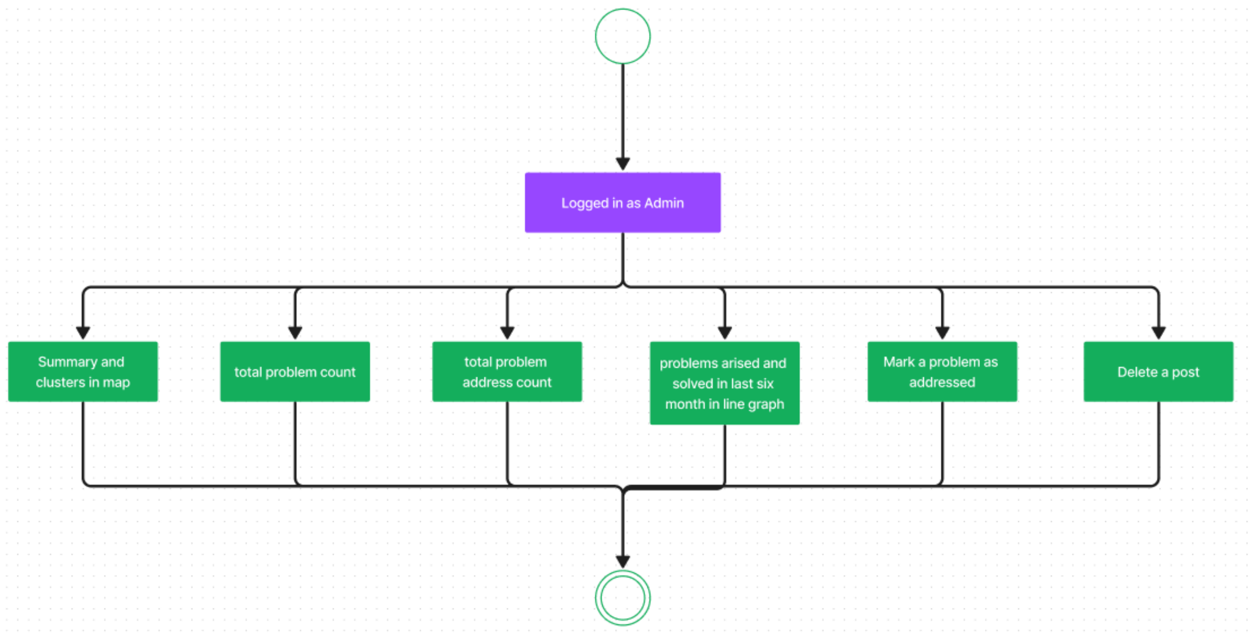
Post a Blog by user



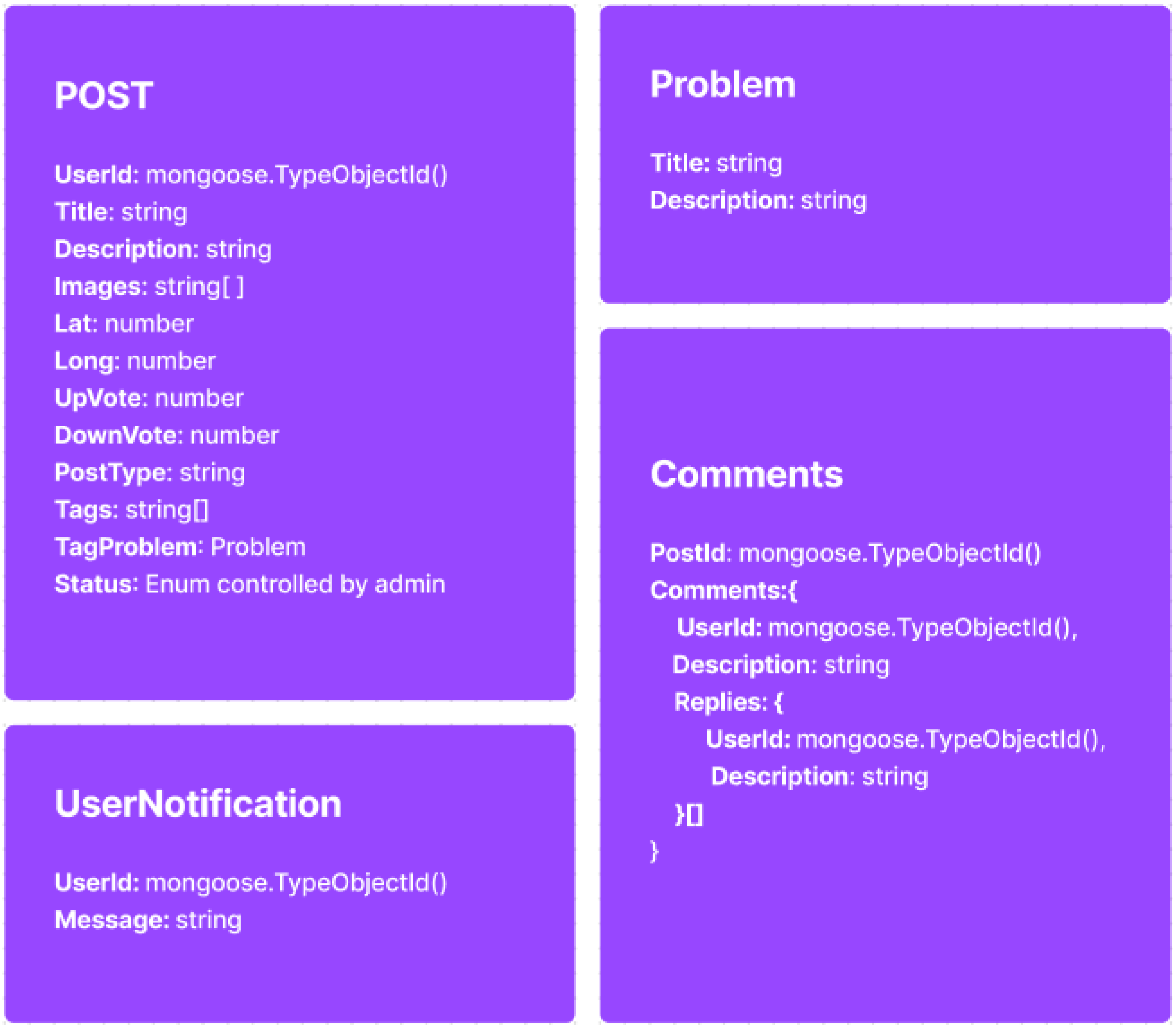
Marketplace



Admin Dashboard


Logged in as Admin
Summary and clusters in map
total problem count
total problem address count
problems arised and solved in last six month in line graph
Mark a problem as addressed
Delete a post

Database Schema



POST

UserId: mongoose.TypeObjectId()
Title: string
Description: string
Images: string[ ]
Lat: number
Long: number
UpVote: number
DownVote: number
PostType: string
Tags: string[]
TagProblem: Problem
Status: Enum controlled by admin

Problem

Title: string
Description: string

UserNotification

UserId: mongoose.TypeObjectId()
Message: string

Comments

```
PostId: mongoose.TypeObjectId()
Comments:{
   UserId: mongoose.TypeObjectId(),
   Description: string
   Replies: {
       UserId: mongoose.TypeObjectId(),
        Description: string
   }[]
}
```

UserOTP

UserId: mongoose.TypeObjectId()
OTP : number
Time: Date...

ChatRooms

RoomName: string
RoomType: string
Users: {
  UserId: mongoose.Types.ObjectId()
  UserType: string[]
  Status: string[]
}

Seller

UserId: mongoose.TypeObjectId()
Company: {
    Name: string
    Details: string
}
Name: string
Details: string
SubscriptionStatus: Enum{Active, deactive, pause}
rating: number

Messages

SenderId: number
SenderFullName: string
RoomId: string
type: Enum["text", "image"]
Message: string
Time: Date
Tags: **Enum[**"help", "**suport**"**]**

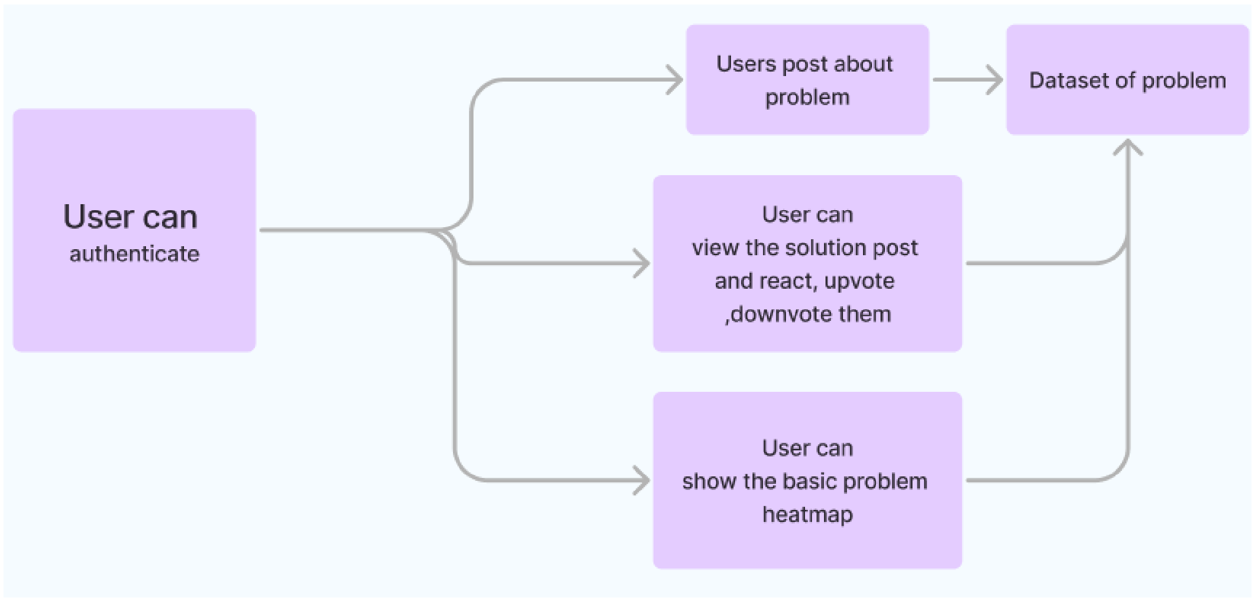
Service sell

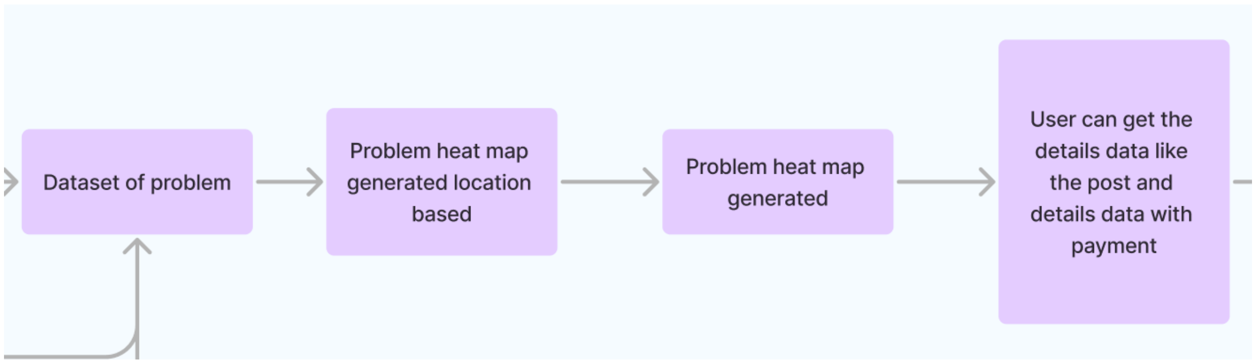
SellerId: mongoose.TypeObjectId()
SellerType: string
Title: string
Description: string
Problem: string
Tags: string[]
serviceUsers: {userId}[]
Reviews:{
  UserId: mongoose.TypeObjectId()
  Text: string
}...

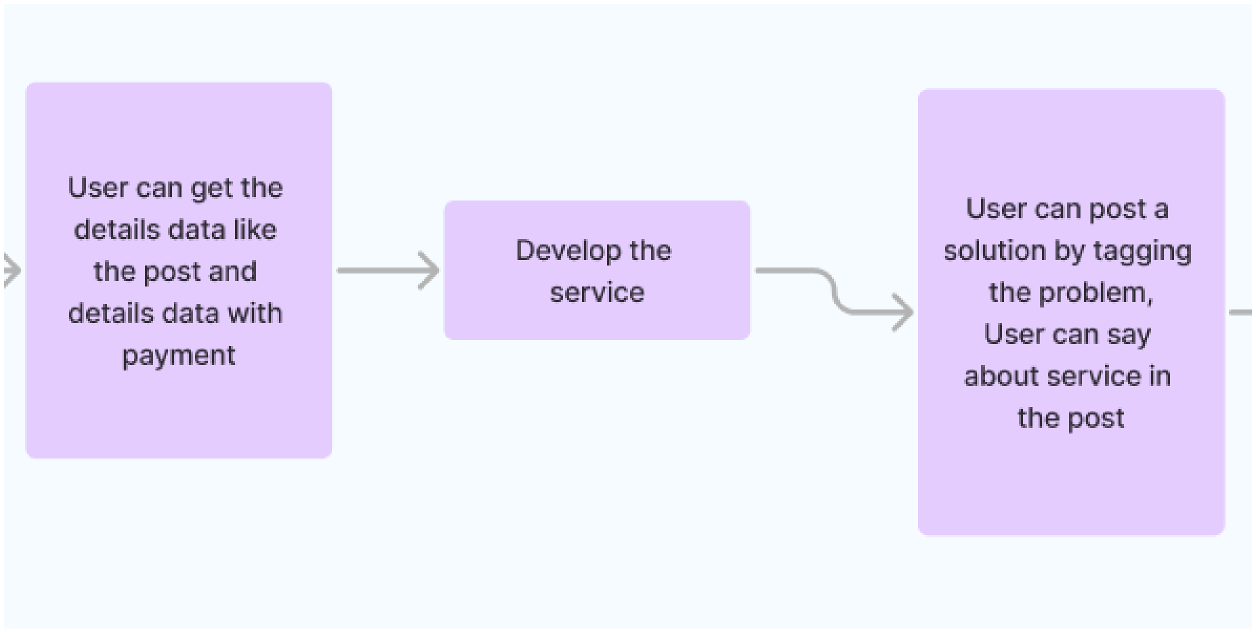
User

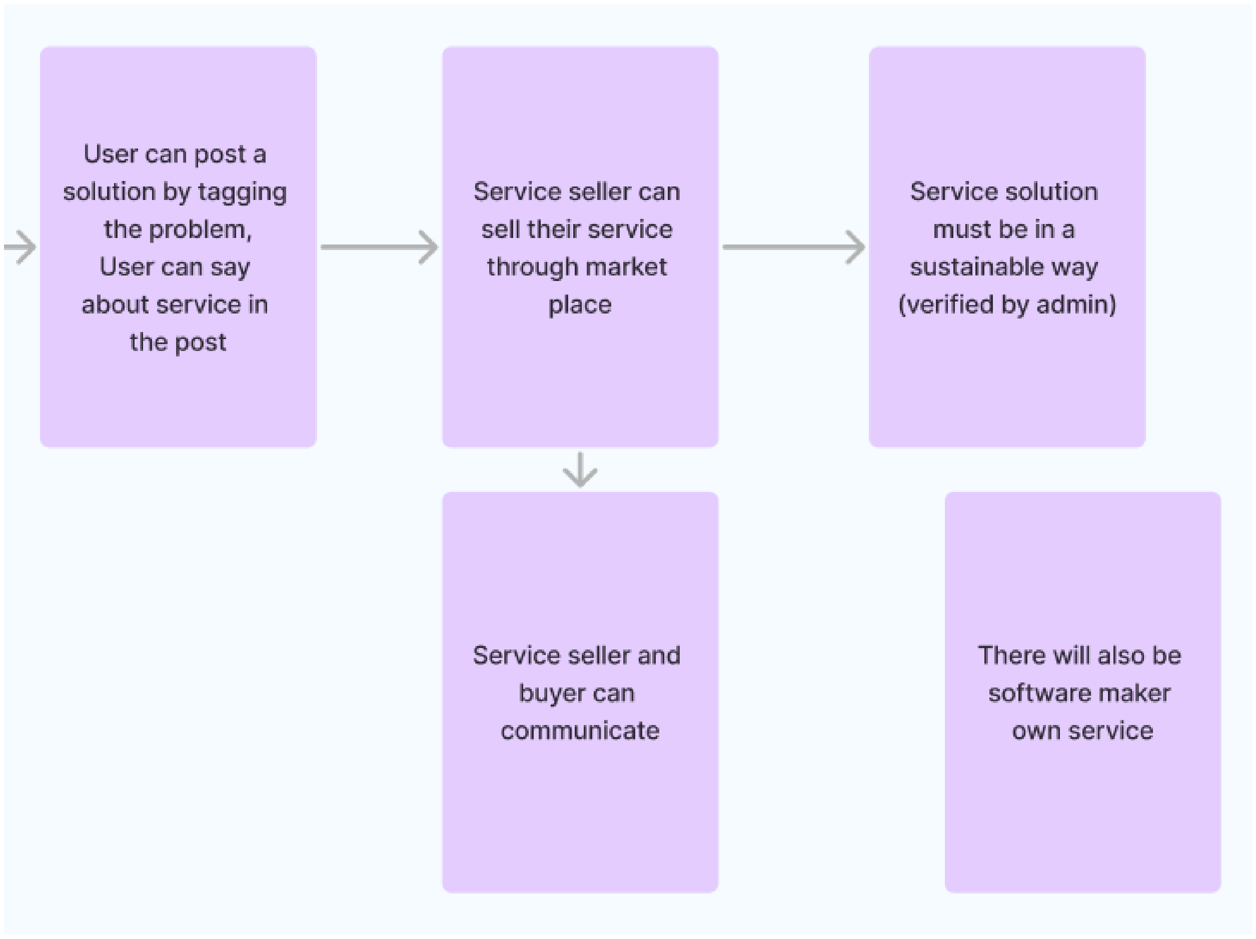
Email: string
Password: string
Image: string
Username: string
Roles: string[]
...

Data flow diagram


User can authenticate
Users post about problem
Dataset of problem
User can view the solution post and react, upvote ,downvote them
User can show the basic problem heatmap


Dataset of problem
Problem heat map generated location based
Problem heat map generated
User can get the details data like the post and details data with payment


User can get the details data like the post and details data with payment
Develop the service
User can post a solution by tagging the problem, User can say about service in the post


User can post a solution by tagging the problem, User can say about service in the post
Service seller can sell their service through market place
Service solution must be in a sustainable way (verified by admin)
Service seller and buyer can communicate
There will also be software maker own service