GREEN RIDES

Team 12

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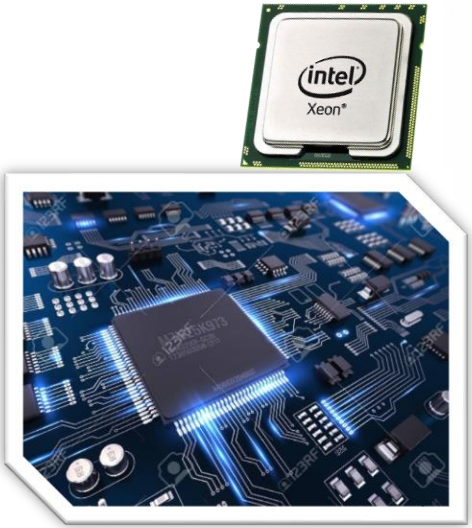
About the project.

Green Rides is a technical solution for general public to guide them to a less polluted path while they traveling home back in vehicles, jogging, or just taking a walk. It's main aim is to help people avoid polluted areas and also help in maki ng their surroundings as pollution free.

This application gives Google map view. A user can select source to destination path which than will be processed to give a number of routes to reach destination from source with amount of traffic at various locations in that path togethe r with current pollution status in the route(which updates over time). While there's a condition like traffic jam a user can blow horn to all users within a specific radius according to his current location and that horn is in a form of small notifica tion of something like that which in-radius person's will receive. In-order to engage user activity in app there will be sma ll pop-ups in route of user which denote like hospital, police station, if some accident occurred there. Etc. In order to mak e it live notification in a path possible there will be reward system according to which if a person notifies that there is so mething new in that path happening like some accident occurred(i wish not) than he/she will be gain points which later ca n be redeemed. Now to make this user notification authentic, there will be some feature(button) that if some, say 15, user s reported that notification was correct than only the user that notified will be rewarded otherwise it will be detected as fa ke report(which update over time).

About the system.



1.Hardware Requirements:

The selection of hardware is very important in the existence and proper working of any of the software. When selecti ng hardware, the size and capacity requirements are also important. The hardware must suit all application developmen ts.

- Processor : i3 or above.
- System Bus : 32Bit or 64Bit
- RAM : 4 GB or Above
- HDD : 500 GB or Above
- Monitor : 14” LCD or Above
- Key Board : 108 Keys
- Mouse : Any Type of mouse
- Mobile : Android/IOS supported mobile phone

2.Software Requirements:

- One of the most difficult tasks is selecting software, once the system requirement is find out then we have t o determine whether a particular software package fits for those system requirements. This section summari zes the application requirement.
- Operating System : Windows 10 Any 32 bit or 64 bit platform
- Front End : HTML , CSS, Javascript, Flutter
- Back End : Python , Mysql server
- Framework: Django
- IDE : Android studio : Python 3.6 or above : PyCharm
- Browser: Microsoft edge, google Chrome, Mozilla Firefox

Back End Software

1.Python

Python is an **object-oriented, high-level programming language** with integrated dynamic semantics primarily for web and app development. It is extremely attractive in the field of Rapid Application Development because it offers dynamic typing and dynamic binding options.

2.Mysql server

MySQL is one of the most recognizable technologies in the modern big data ecosystem. Often called the most popular database. MySQL is an open-source Relational Database Management System(RDBMS). It is based on Structured Query Language (SQL – which is a language to manage the DataBase and perform CRUD operations such as create, read, etc., update and delete.). t is the most popular and most widely RDBMS because it is an open-source and freeware DB Server that provides much-advanced database functionalities.

Front End Software

1. HTML 

- HTML stands for **H**yper**t**ext **M**arkup **L**anguage, and it is the most widely used language to write Web Pages. As its name suggests, HTML is a markup language.
- **Hypertext** refers to the way in which Web pages (HTML documents) are linked together. When you click a link in a Web page, you are using hypert ext.
- Originally, HTML was developed with the intent of defining the structure of documents like headings, paragraphs, lists,

2.CSS 

- **C**ascading **S**tyle **S**heets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable.
- CSS handles the look and feel part of a web page. Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraph s, how columns are sized and laid out, what background images or colors are used, layout designs,variations in display for different devices and scree n sizes as well as a variety of other effects.

3. JAVASCRIPT 

JavaScript is the world most popular lightweight, interpreted compiled programming language. It is also known as scripting lan guage for web pages. It is well-known for the development of web pages, many non-browser environments also use it. JavaScript c an be used for Client-side developments as well as Server-side developments.

4.Flutter 

Flutter is a powerful language packed with a powerful mobile framework that can be used in both iOS and Android applications. Flutter is often used w ith DART, which is an object-oriented programming language by Google.

Framework Language Used

- Django

Django is a high-level Python web framework that enables rapid development of secure and maintainable websites. Built by experienced developers, Django takes care of much of the hassle of web development, so you can focus on writing your app without needing to reinvent the wheel. It is free and open source, has a thriving and active community, great documentation, and many options for free and paid-for support. Django can be (and has been) used to build almost any type of website — from content management systems and wikis, through to social networks and news sites. It can work with any client-side framework, and can deliver content in almost any format (including HTML, RSS feeds, JSON, XML, etc).

Existing System.

- One disadvantage of most conventional vehicle detection methods in a traffic control system is that they can only detect the v ehicle in a fixed position.
- Traffic control signals may result in a re-entrant collision of vehicles. They may cause a delay in the quick movement of traffi c
- . The main problem faced is that when traffic demand is great enough that the interaction between vehicles slows the speed of the traffic stream, these results in some congestion. There is no capability to reset traffic signal as on demand approaches.
- Traffic congestion can lead to drivers becoming frustrated and engaging in road rage. Sometimes higher traffic density at one side of the junction demands longer green time as compared to standard allotted time.

- consequently, traffic congestion will become a pressing issue. It creates several negative concerns for the environment and so ciety such as increasing in number of traffic accidents, economical impacts, and high levels of greenhouse emissions.

Proposed System

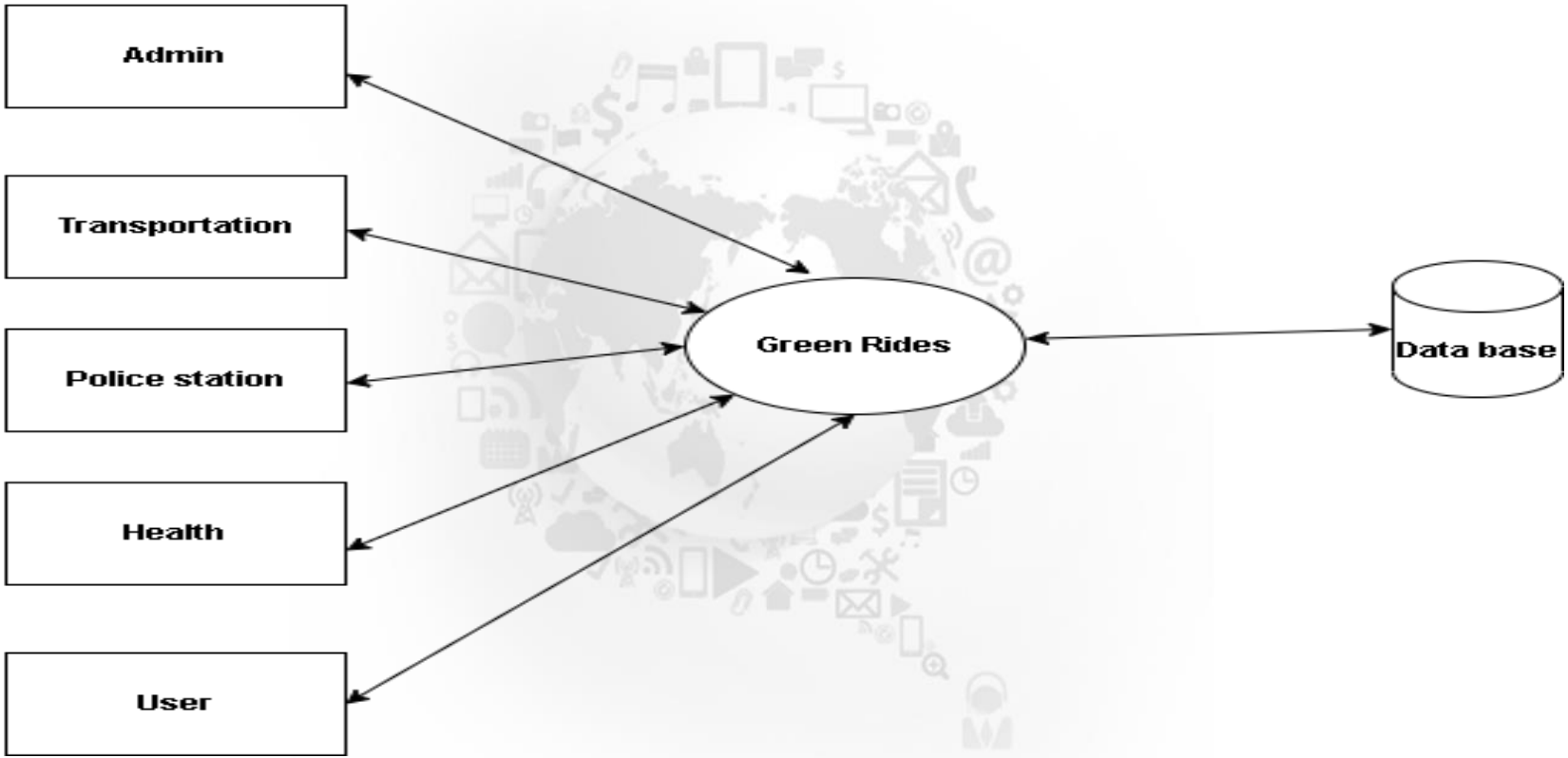
- The proposed system solves traffic congestion, which is a severe problem in many modern cities all over the world.
- Green Rides is a technical solution for general public to guide them to a less polluted path while they traveling home back in vehicles, joggin g, or just taking a walk. It's main aim is to help people avoid polluted areas and also help in making their surroundings as pollution free.
- This application gives Google map view. A user can select source to destination path which than will be processed to give a number of routes to reach destination from source with amount of traffic at various locations in that path together.
- While there's a condition like traffic jam a user can blow horn to all users within a specific radius according to his current location and that h orn is in a form of small notification of something like that which in-radius person's will receive.
- In-order to engage user activity in app there will be small pop-ups in route of user which denote like hospital, police station, if some accident occurred there. Etc.
- Now to make this user notification authentic, there will be some feature(button) that if some, say 15, users reported that notification was corre ct than only the user that notified will be rewarded otherwise it will be detected as fake report.(future update)
- This Application has an advanced search feature so that recognized as well as translated text can be used to copy, paste, share and search for t ravel related queries like museums, places, restaurants, books, culture, hotels, etc. There is no remote computing overhead because the applic ation has built in OCR suite as well as Image Processing suite both installed in the Android device. It provides fast, robust and extremely high Quality performance because of having improved Auto focus behavior, continuous dynamic preview and improved noise tolerance feature

Features in App

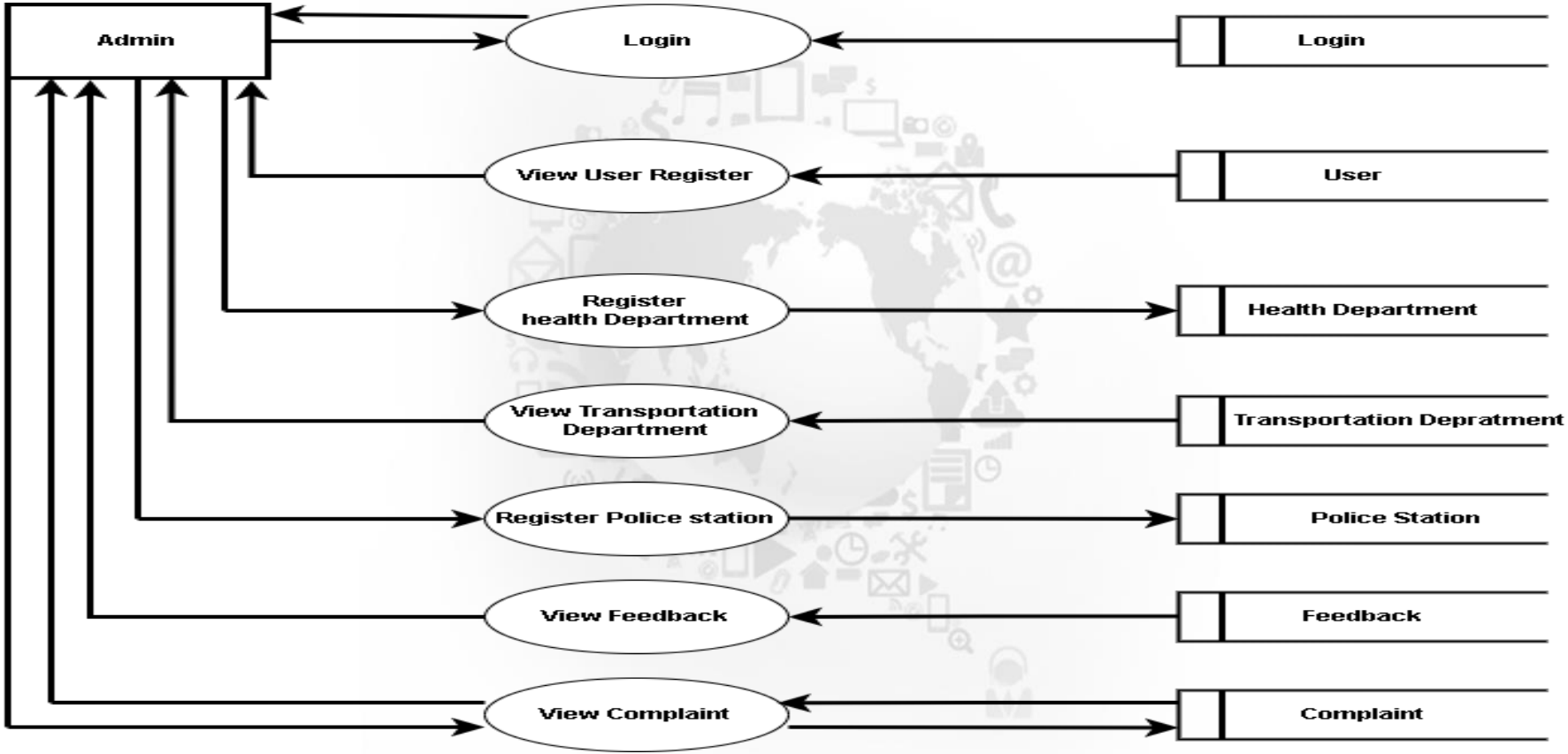
- Main window where we can select source and destination.
- On selecting route pop-ups(which will be in form of a cartoon/image) will appear denoting an event occurring there or some police station, mall, etc.
- There will be multiple routes each having different(most probably, especially in urban areas.) traffic and amount of pollution.
- Horn that will be blown by a user notified within a radius or to a particular vehicle in front of us for which there will be an option in the app.
- There will be delay in which horn can be re-blown, and user doesn’t get to many horn notification fe ature

Data Flow Diagram(DFD)

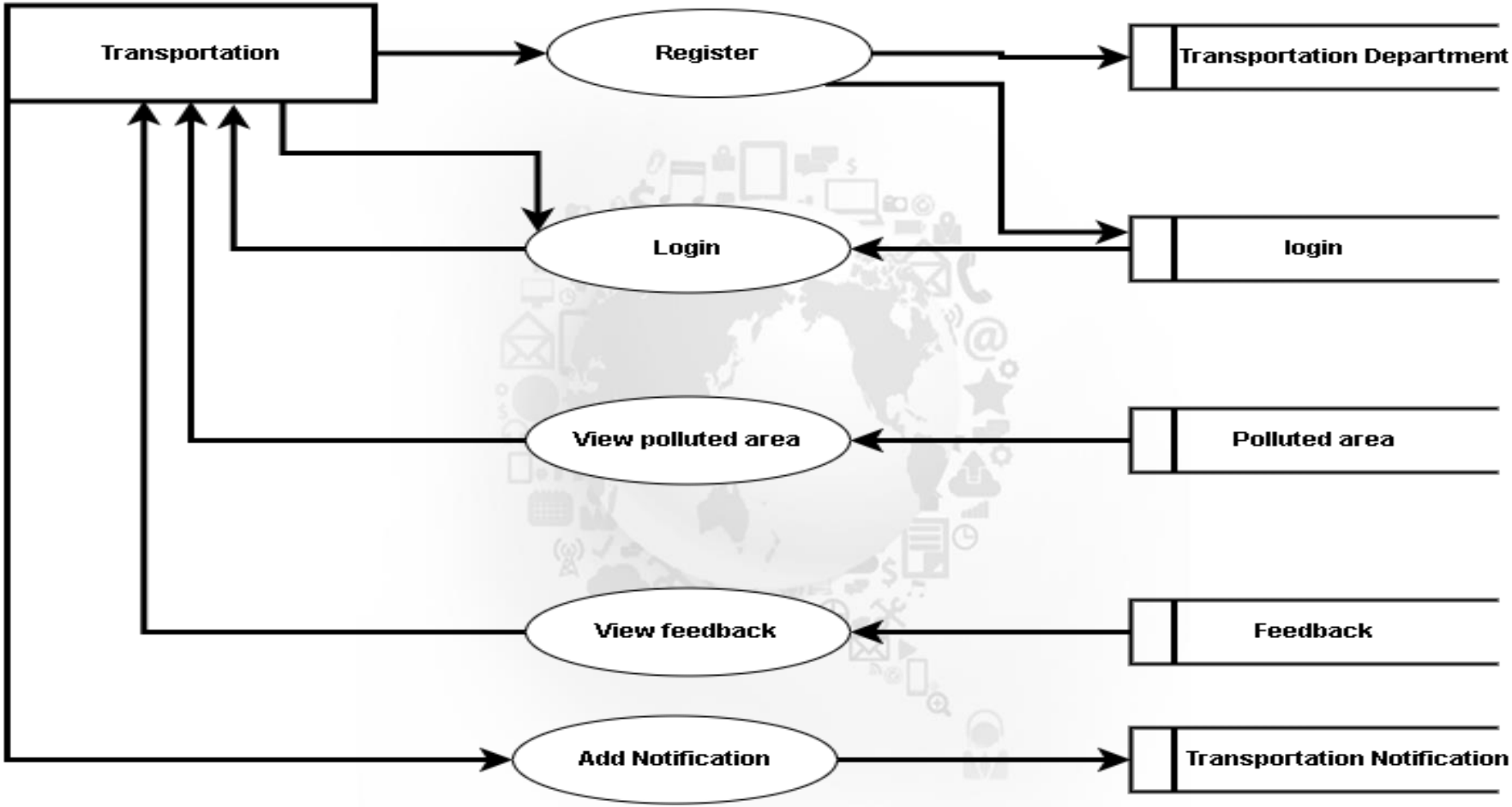
Level 0



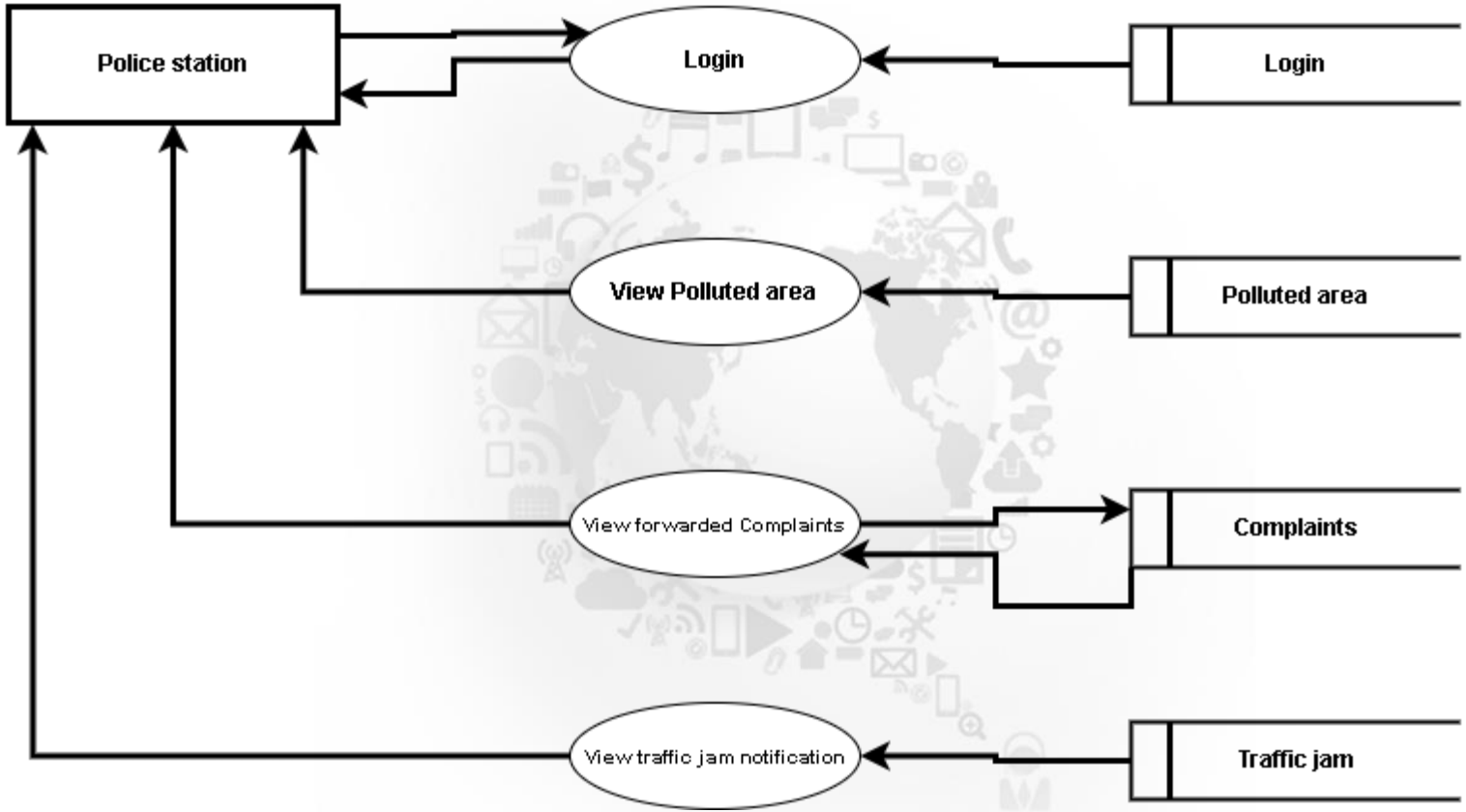
level 1.1.Admin



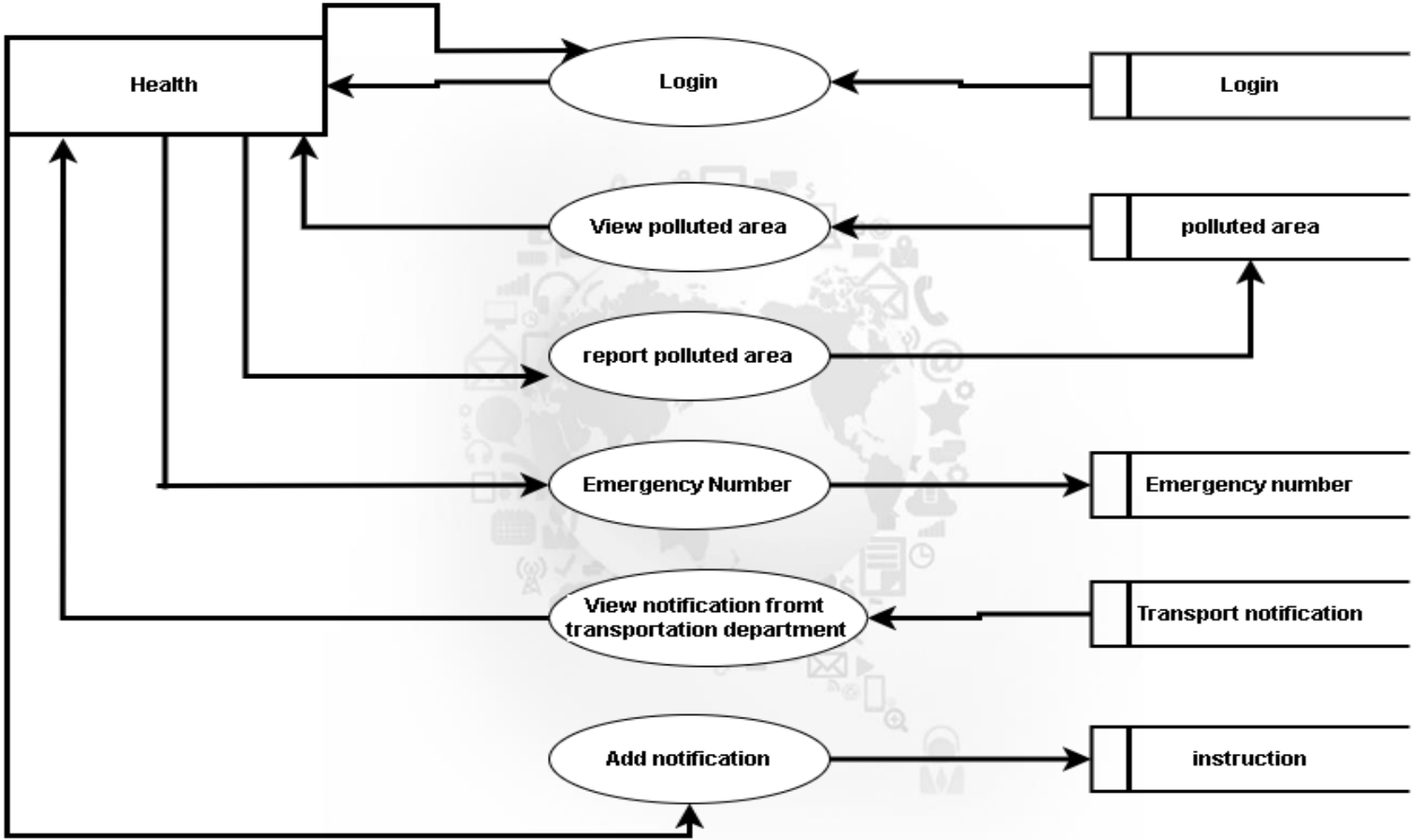
Level 1.2 Transportation Department



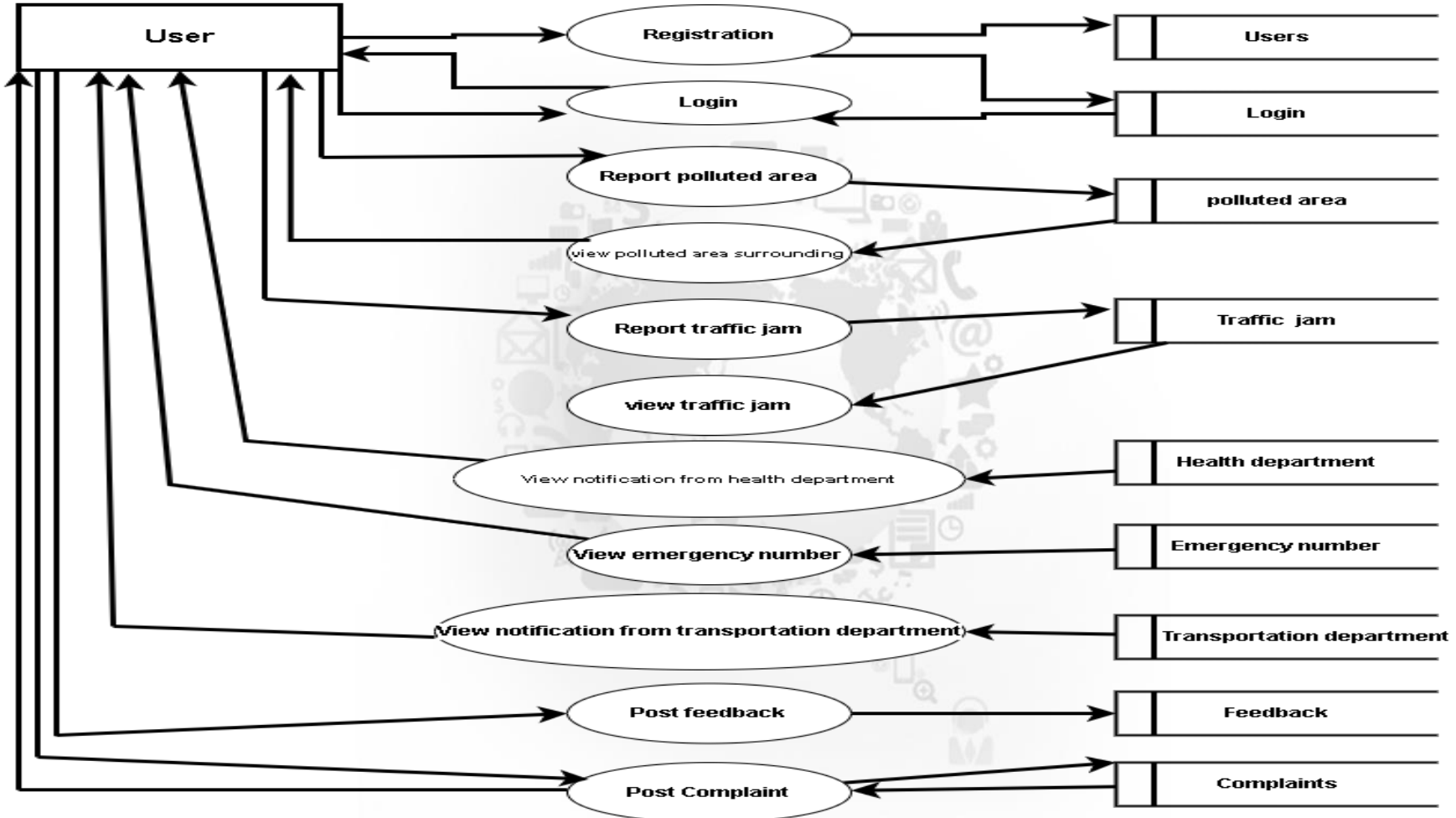
Level 1.3 Police station



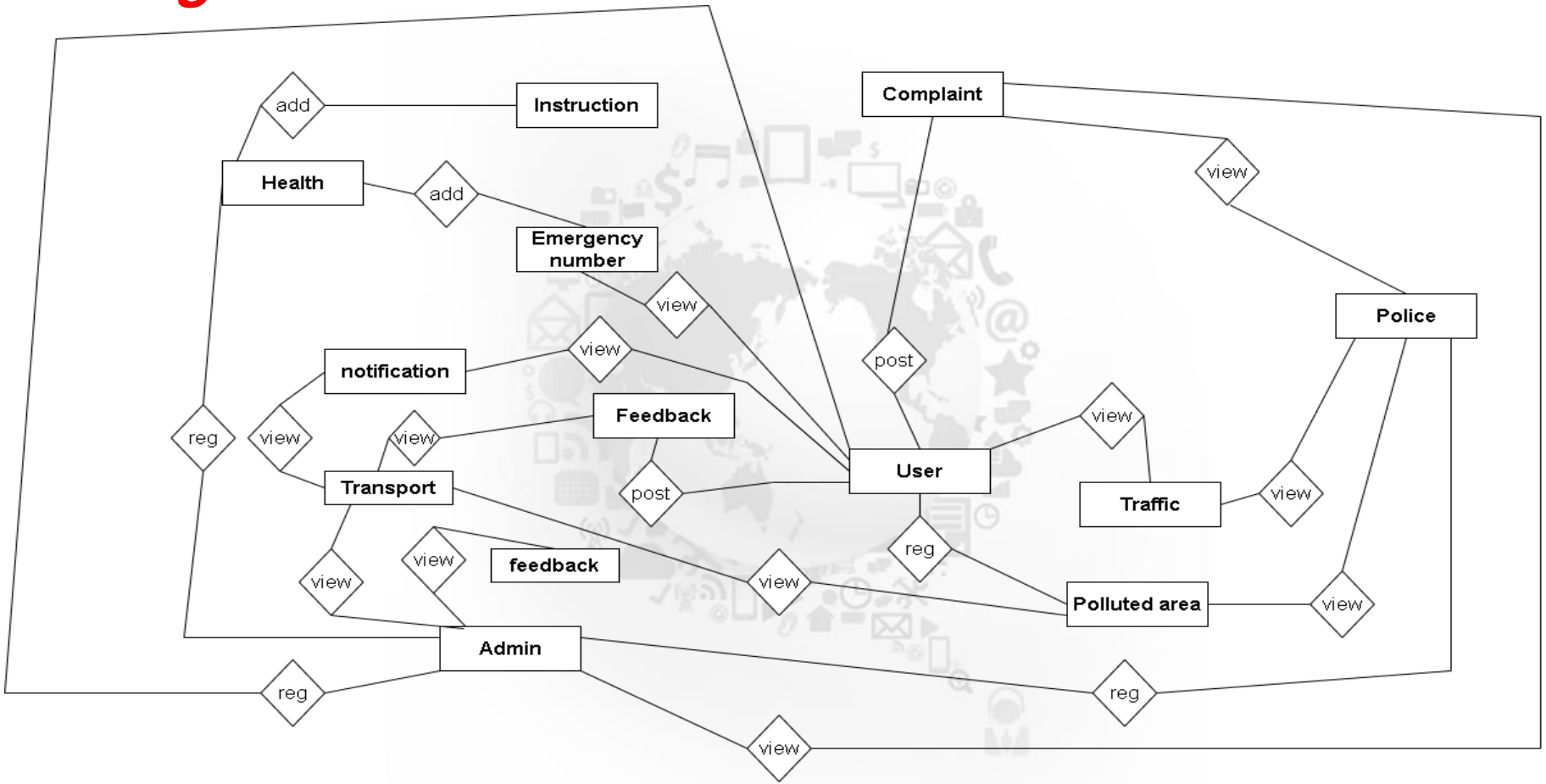
Level 1.4 Health Department



level 1.5 User



ER Diagram


add
Instruction
Health
add
Emergency number
view
notification
view
reg
view
view
Feedback
Transport
post
view
feedback
view
Admin
reg
view
Complaint
view
Police
post
User
view
Traffic
view
reg
Polluted area
view
view
reg
reg
view

Normalization

Data structuring is refined through the process called normalization. The basic objective of normalization is to re duce the data redundancy, which means that information is stored only once. There are several normal forms, the y are

1. FIRST NORMAL FORM

A relation is said to be in first normal form if and only if all the attribute values are atomic. In the F irst normal form;

- All the key attributes are defined.
- There are no repeating groups in the table. In other words, each row/column intersection can contain one and o nly one not a set of values
- All the attributes are dependent on the primary key

SECOND NORMAL FORM

To be in second normal form a table must be in first normal form and no attribute of the table should be functionall y dependent on any part of the primary key .

A table is in second normal form if:
- It is in 1 NF
- It include no PARTIAL DEPENENCIES; that is no attribute is dependent on a portion of the primary key

THIRD NORMAL FORM

To be in third normal form a table must be in second normal form and no attribute of the table should be transitivel y functionally dependent on the primary key.

- It contains no transitive dependencies

Process Design

Important Codes

```python
from django.shortcuts import render
from complaint.models import Complaint
import datetime
# Create your views here.
def complaint_post(request):
    if request.method=="POST":
        ob=Complaint()
        ob.complaint=request.POST.get('complaint')
        ob.date=datetime.date.today()
        ob.time=datetime.datetime.now()
        ob.u_id=1
        ob.reply="pending"
        ob.status="pending"
        ob.save()
    return render(request,'complaint/post complaint.html')

def view_complaint(request):
    obj=Complaint.objects.filter(status="pending")
    context={
        'okey':obj
    }
    return render(request,'complaint/view complaint.html',context)


def forward(request,idd):
    obj=Complaint.objects.get(c_id=idd)
    obj.status="Forward"
    obj.save()
    return view_complaint(request)

def view_police(request):
    obj=Complaint.objects.filter(status="Forward")
    context={
        'okey':obj
    }
    return render(request,'complaint/view complaint police.html',context)

def reply(request,idd):
```

Important Codes

```
from django.conf.urls import url
from complaint import views
urlpatterns=[
    url('^postc/',views.complaint_post),
    url('^viewc/',views.view_complaint),
    url('^viewp/',views.view_police),

    url('forward/(?P<idd>\w+)', views.forward, name='forward'),
    url('reply/(?P<idd>\w+)', views.reply, name='reply'),

]
```

Important Codes

```python
from django.db import models

# Create your models here.
class Users(models.Model):
    u_id = models.AutoField(primary_key=True)
    name = models.CharField(db_column='Name', max_length=50)  # Field name made lowercase.
    address = models.CharField(db_column='Address', max_length=50)  # Field name made lowercase.
    email = models.CharField(db_column='Email', max_length=50)  # Field name made lowercase.
    phone_number = models.CharField(db_column='Phone_number', max_length=50)  # Field name made lowercase.
    age = models.CharField(db_column='Age', max_length=50)  # Field name made lowercase.
    place = models.CharField(max_length=50)
    username = models.CharField(max_length=50)
    password = models.CharField(max_length=50)

    class Meta:
        managed = False
        db_table = 'users'
```