**Place Class**

String name

double location

String address

String description

String[] tags

Road road

double estTimeCommitment

Place(String name, double location, String address, String description, String[] tags, Road road, double estTimeCommitment)

this.name = name

this.location = location

this.description = description

this.tags = tags

this.road = road

estTimeCommitment = null

setName(String name)

this.name = name

getName()

return name

setLocation(double location)

this.location = location

getLocation()

return location

setDescription(String description)

this.description = description

getDescription()

return description

getTags():

return tags

setTags(String[] tags)

this.tags = tags

getAddress()

return address

setAddress(String address)

this.address = address

getEstTimeCommitment()

return estTimeCommitment

setEstTimeCommitment(double timeCommitment)

estTimeCommitment = timeCommitment

associateAddressCoordinate(address, Place)

Map.get(address) //hashmap, address maps to a Place

setRoad(Road road)

this.road = road

getRoad()

return road

public void destroy()

destroy object

**Road Class**

String name

double distanceOnRoad

int trafficEstimate

int speedLimit

Road connectsTo

Road(String name, double distanceOnRoad, int trafficEstimate, int speedLimit, Road connectsTo)

this.name = name

this.distanceOnRoad = distanceOnRoad

this.trafficEstimate = trafficEstimate

this.speedLimit = speedlimit

this.connectsTo = connectsTo

timeLeft = distanceOnRoad / speedLimit + trafficEstimate

setTime()

timeLeft = distanceOnRoad / speedLimit + trafficEstimate

getTime()

return time

setName(String name)

this.name = name

getName()

return name

setDistanceOnRoad(int distanceOnRoad)

this.distanceOnRoad = distanceOnRoad

getDistanceOnRoad()

return distanceOnRoad

setTrafficEstimate(int trafficEstimate)

this.trafficEstimate = trafficEstimate

getTrafficEstimate()

return trafficEstimate

setSpeedLimit(int speedLimit)

this.speedLimit = speedLimit

getSpeedLimit()

return speedLimit

getConnectsTo()

return connectsTo

setConnectsTo(Road connectsTo)

this.connectsTo = connectsTo

destroy()

destroy object

**Navigation Class** //client class, doesn’t need to be instantiated

Place destination

int timeEstimate

double distance

Road[] route

setRoute(Road[] newRoute)

route = newRoute

timeEstimate = 0

distance = 0

for each road in route

timeEstimate += road.getTime()

distance += road.getDistanceOnRoad()

getRoute()

return route

setTimeEstimate(int timeEstimate)

this.timeEstimate = timeEstimate

getTimeEstimate()

return timeEstimate

getDistance()

return distance

setDistance(double distance)

this.distance = distance

setDestination(Place newDestination)

destination = newDestination

getDestination()  
 return destination

destroy()

destroy object

**Map Class**

Place[] places

int clientRenderDistance

String region

double[] regionalCoordinates

double coordinateGranularity

\\Determines effectively the distance between points on the grid of the map,

Scaled up or down dependent on urban density.

double endpointCoordinate

getEndpointCoordinate()

return endpointCoordinate

setEndpointCoordinate(double coord)

endpointCoordinate = coord

populateMap(Place[] places, locationTags[] tags)

for each Place in places

if places distance from client < clientRenderDistance

render place

searchPlaces(String searchedFor)

for each place in places

if place == searchedFor

return place

displayUserLocation()

render client.getProfilePicture() at client.getLocation()

displayRoads()

for each road in navigation.getRoute()

render road

destroy()

destroy object

**Client Class**

String displayName

String username

String password

Public Client (String displayName, String username, String password)

this.displayName = displayName

this.displayName = displayName

this.displayName = displayName

public void setDisplayName(String displayName)

this.displayName = displayName

public String getDisplayName()

return displayName

public void setUsername(String username)

this.username = username

public String getUsername()

return username

public void setPassword(String oldPassword, String newPassword)

if password = oldPassword

password = newPassword

public boolean verify(String username, String password)

return this.username = username and this.password = password