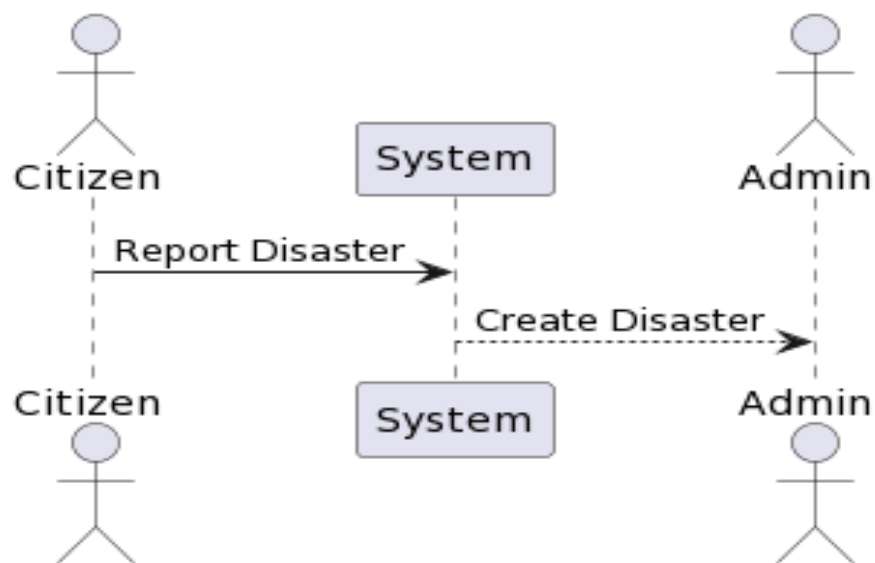# MINI-PROJECT 20MCA245 UML DIAGRAMS
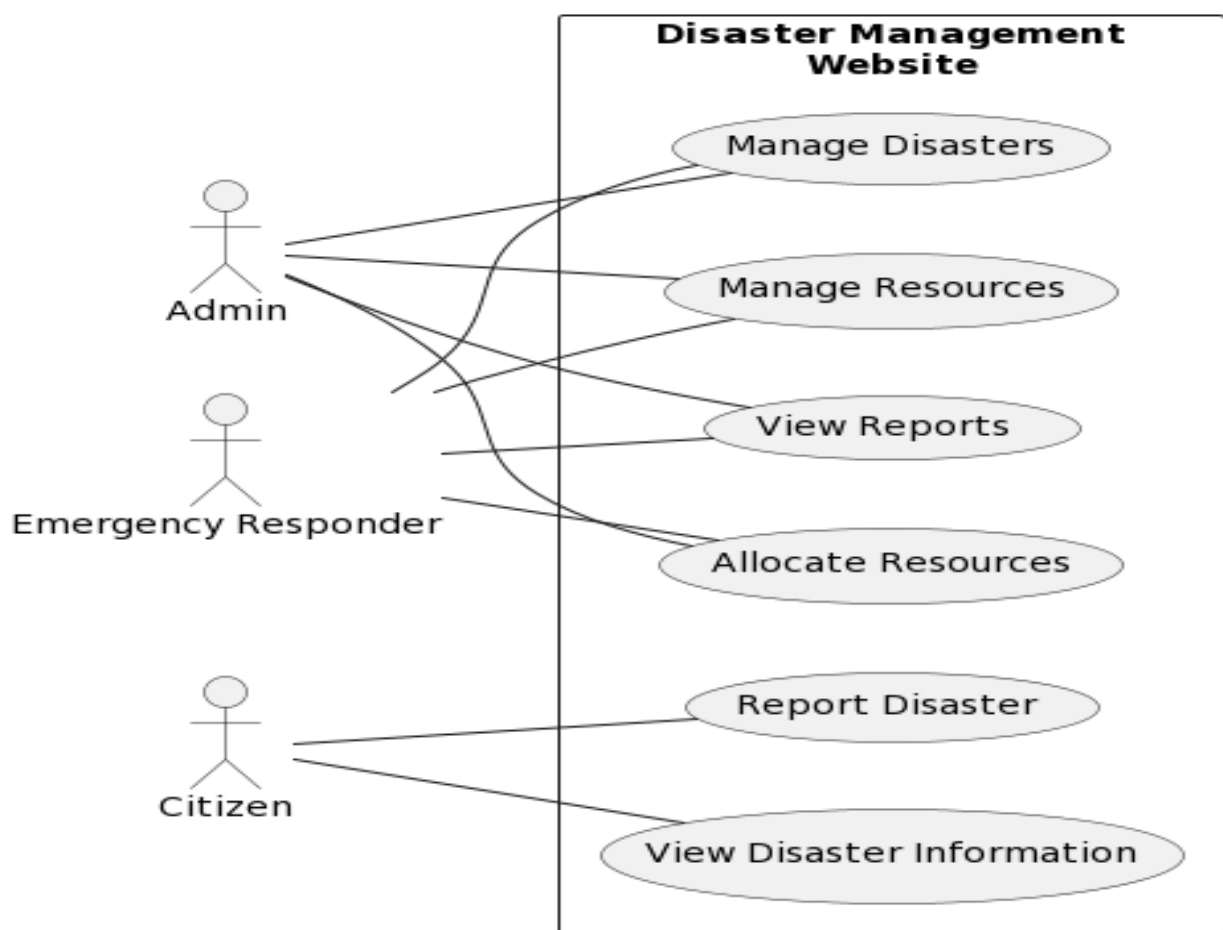
Submitted By:
Amal Babu
RMCA S3 A
ROLL NO:13

Sequence Diagram
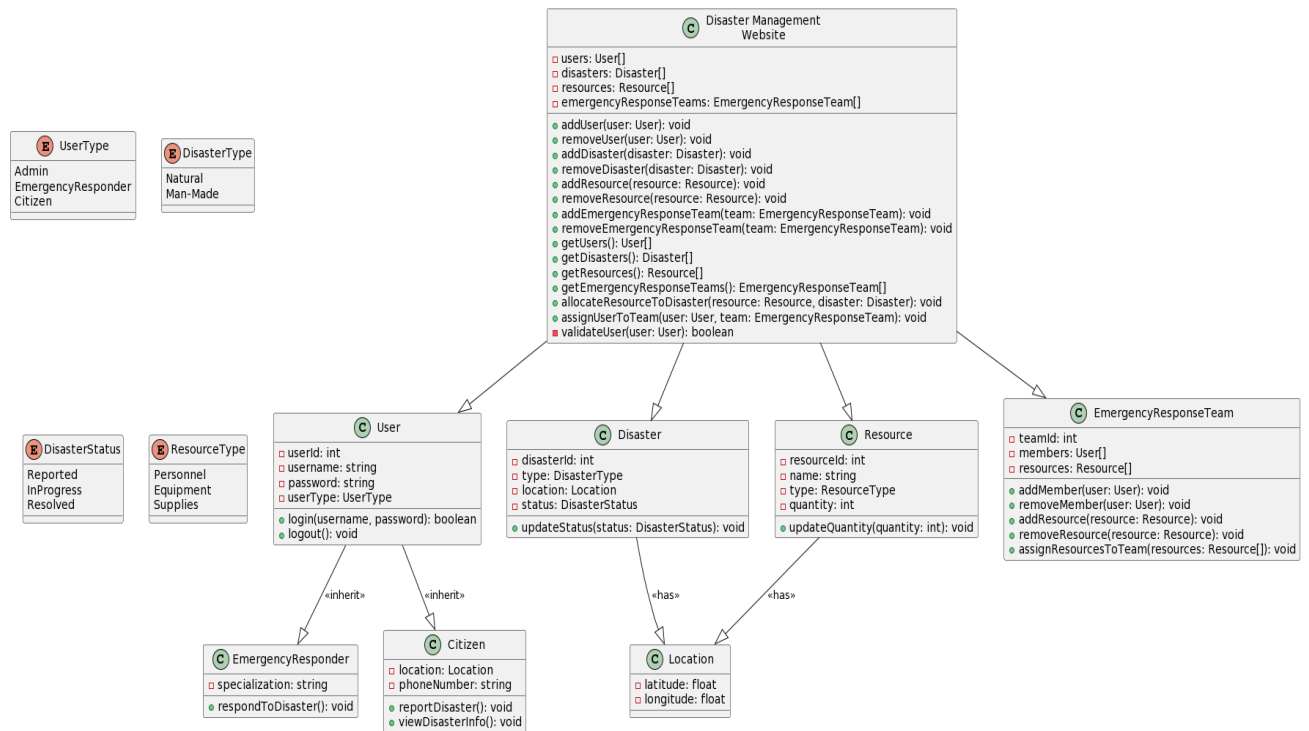
Disaster Management System Sequence Diagram

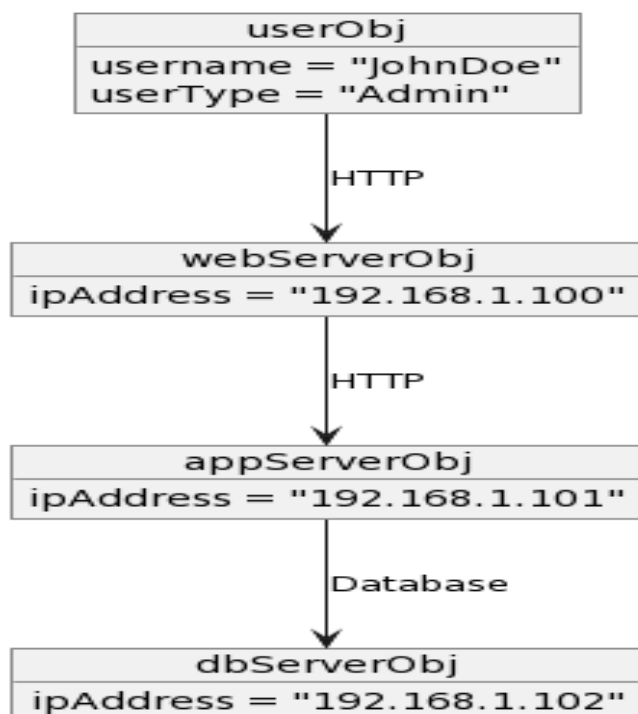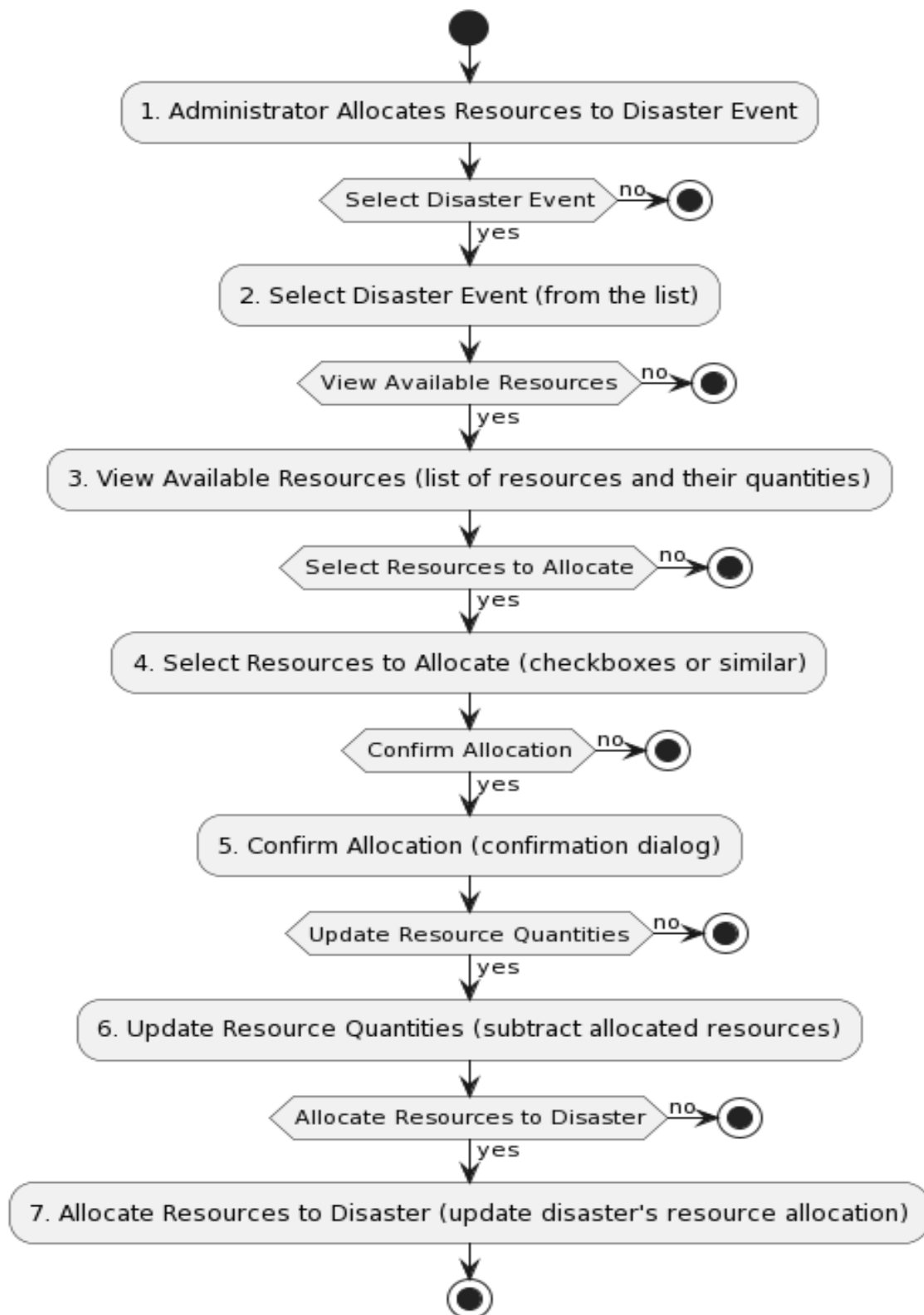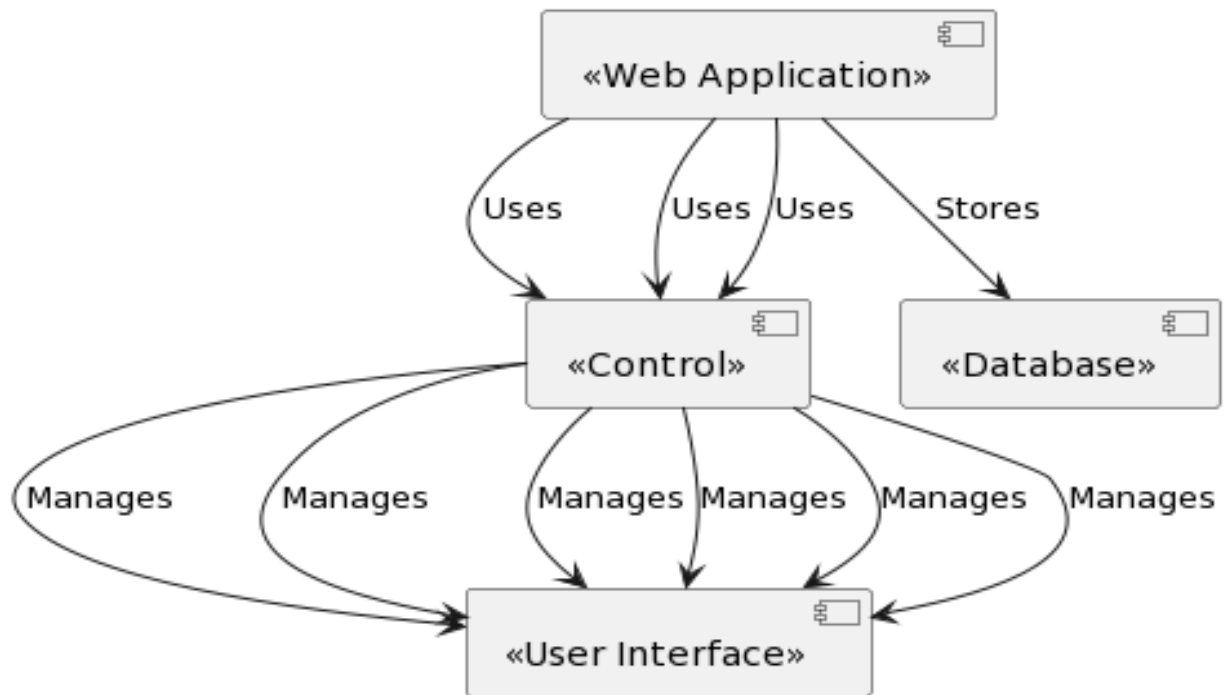## Usecase diagram

Class diagram

Disaster Management Website

- users: User[]
- disasters: Disaster[]
- resources: Resource[]
- emergencyResponseTeams: EmergencyResponseTeam[]

- addUser(user: User): void
- removeUser(user: User): void
- addDisaster(disaster: Disaster): void
- removeDisaster(disaster: Disaster): void
- addResource(resource: Resource): void
- removeResource(resource: Resource): void
- addEmergencyResponseTeam(team: EmergencyResponseTeam): void
- removeEmergencyResponseTeam(team: EmergencyResponseTeam): void
- getUsers(): User[]
- getDisasters(): Disaster[]
- getResources(): Resource[]
- getEmergencyResponseTeams(): EmergencyResponseTeam[]
- allocateResourceToDisaster(resource: Resource, disaster: Disaster): void
- assignUserToTeam(user: User, team: EmergencyResponseTeam): void
- validateUser(user: User): boolean

UserType (E)
Admin
EmergencyResponder
Citizen

DisasterType (E)
Natural
Man-Made

DisasterStatus (E)
Reported
InProgress
Resolved

ResourceType (E)
Personnel
Equipment
Supplies

User
- userId: int
- username: string
- password: string
- userType: UserType
- login(username, password): boolean
- logout(): void

Disaster
- disasterId: int
- type: DisasterType
- location: Location
- status: DisasterStatus
- updateStatus(status: DisasterStatus): void

Resource
- resourceId: int
- name: string
- type: ResourceType
- quantity: int
- updateQuantity(quantity: int): void

EmergencyResponseTeam
- teamId: int
- members: User[]
- resources: Resource[]
- addMember(user: User): void
- removeMember(user: User): void
- addResource(resource: Resource): void
- removeResource(resource: Resource): void
- assignResourcesToTeam(resources: Resource[]): void

«inherit»

«inherit»

«has»

«has»

EmergencyResponder
- specialization: string
- respondToDisaster(): void

Citizen
- location: Location
- phoneNumber: string
- reportDisaster(): void
- viewDisasterInfo(): void

Location
- latitude: float
- longitude: float

Object diagram

Activity diagram

Resource Allocation Activity Diagram

● →

1. Administrator Allocates Resources to Disaster Event

→ Select Disaster Event — no → ◉

yes ↓

2. Select Disaster Event (from the list)

→ View Available Resources — no → ◉

yes ↓

3. View Available Resources (list of resources and their quantities)

→ Select Resources to Allocate — no → ◉

yes ↓

4. Select Resources to Allocate (checkboxes or similar)

→ Confirm Allocation — no → ◉

yes ↓

5. Confirm Allocation (confirmation dialog)

→ Update Resource Quantities — no → ◉

yes ↓

6. Update Resource Quantities (subtract allocated resources)

→ Allocate Resources to Disaster — no → ◉

yes ↓

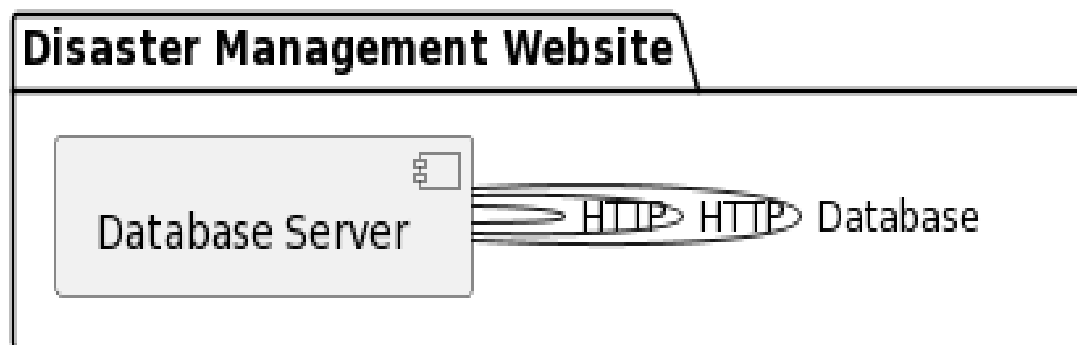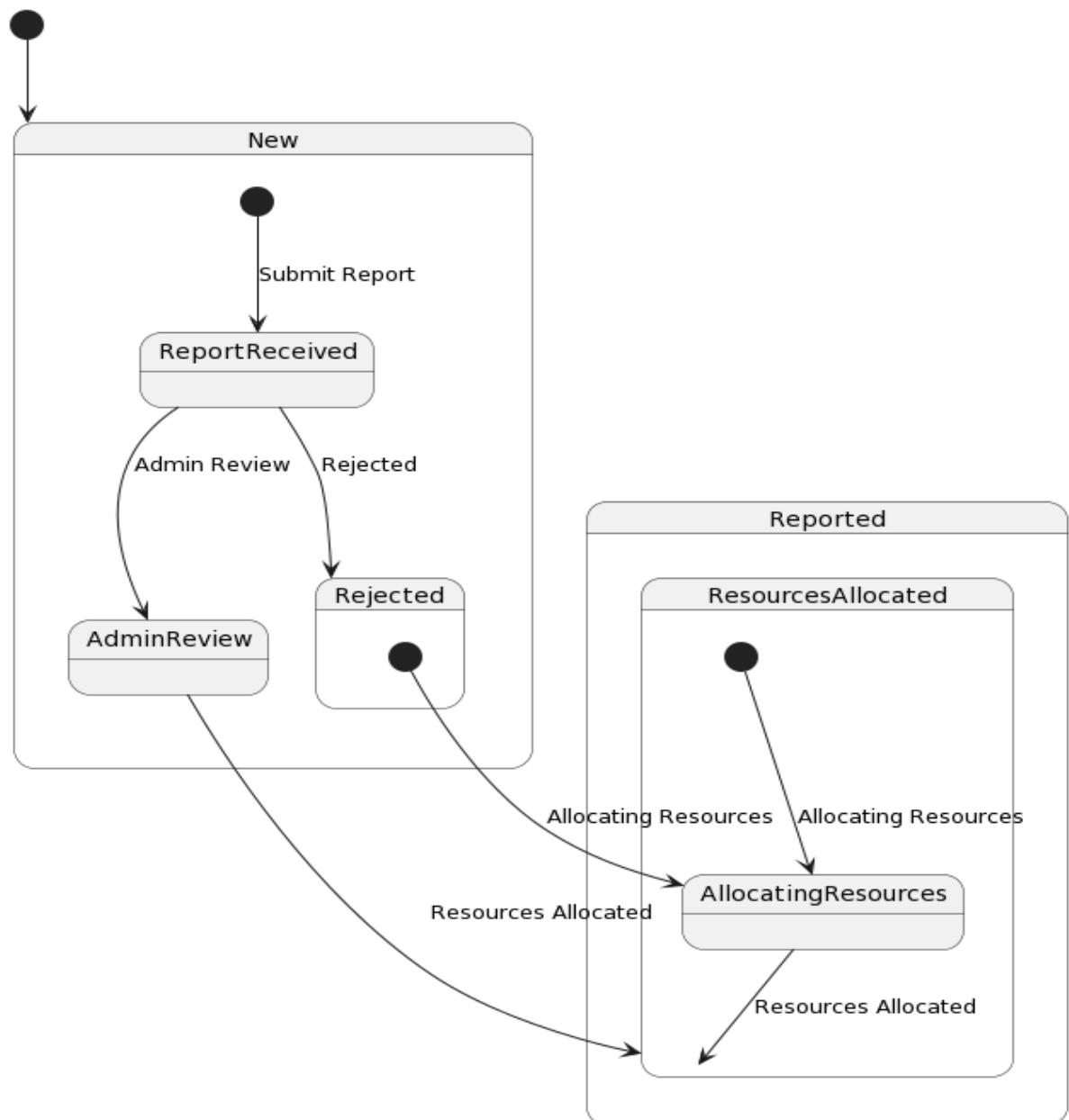7. Allocate Resources to Disaster (update disaster's resource allocation)

↓ ◉

Component diagram

Deployment diagram

State diagram

Timing diagram

Timing Diagram: Disaster Report