
Design & Methodology Document

for

PetManipal

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version
PetManipal	28-10-22	Initial Version	1.0

1. System Overview

1.1 Use Case Diagram

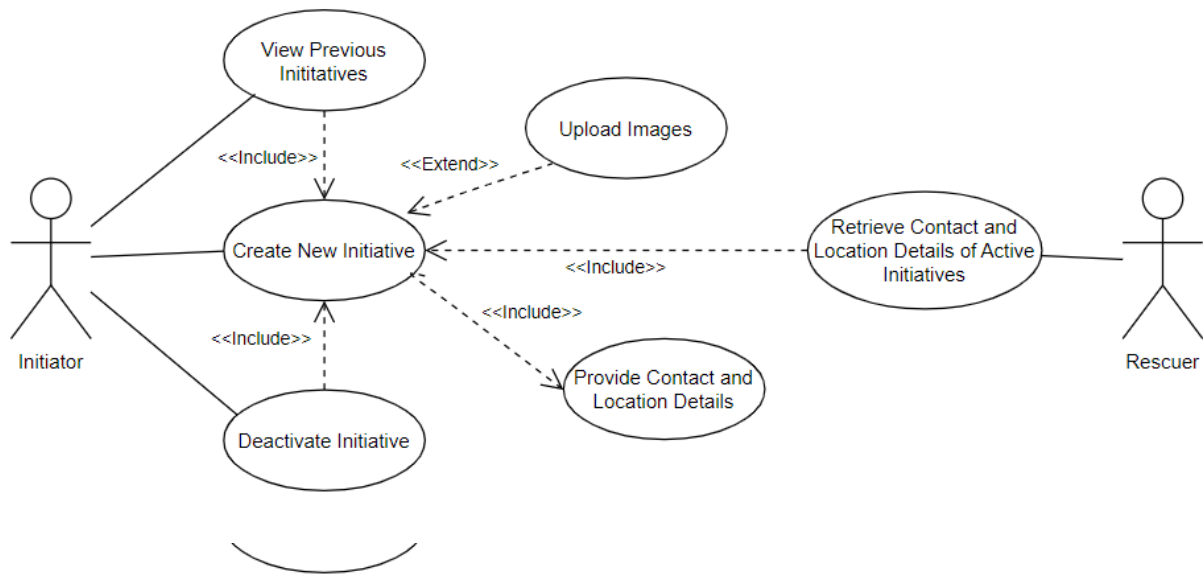


Fig 1. Use Case Diagram

1.2 Sequence Diagrams

1.2.1 Create Initiative Use Case

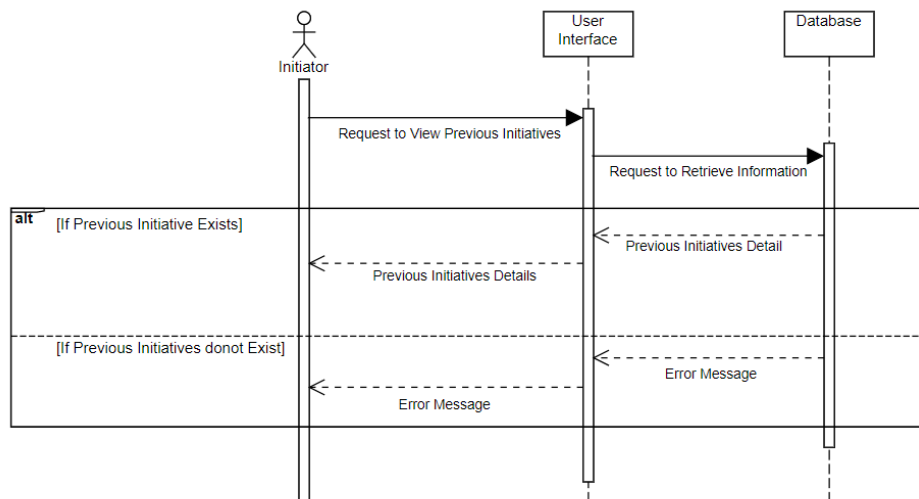


Fig 2. Sequence Diagram for Create Initiative Use Case

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1.2.2 View Previous Initiatives Use Case

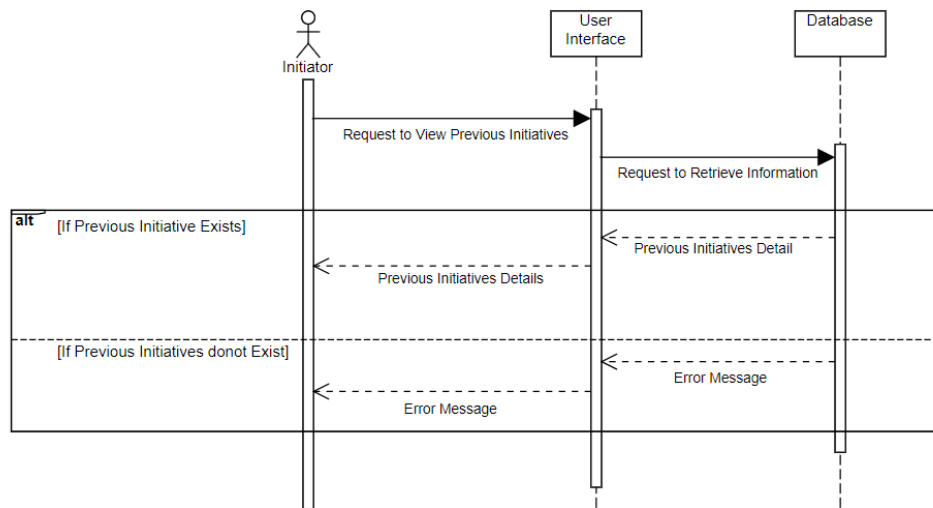


Fig 3. Sequence Diagram for View Previous Initiatives Use Case

1.2.3 Deactivate Initiative Use Case

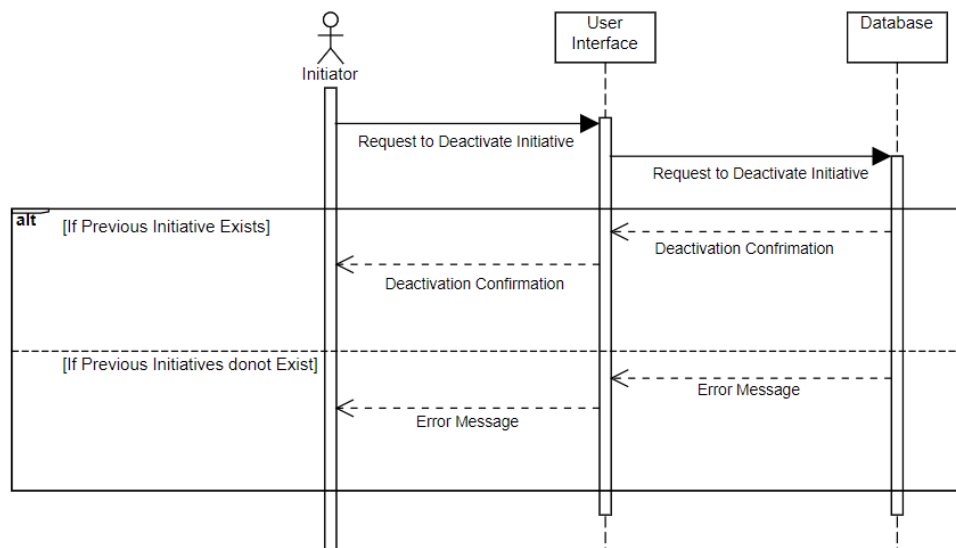


Fig 4. Sequence Diagram to Deactivate Initiative Use Case

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1.2.4 Rescuer Module Use Case

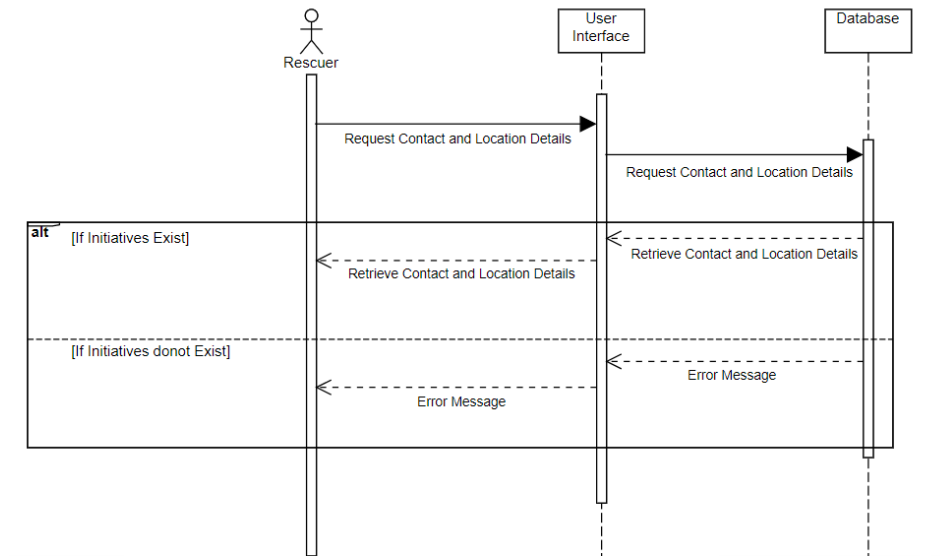


Fig 5. Sequence Diagram for Rescuer Module Use Case

1.3 State Transition Diagram

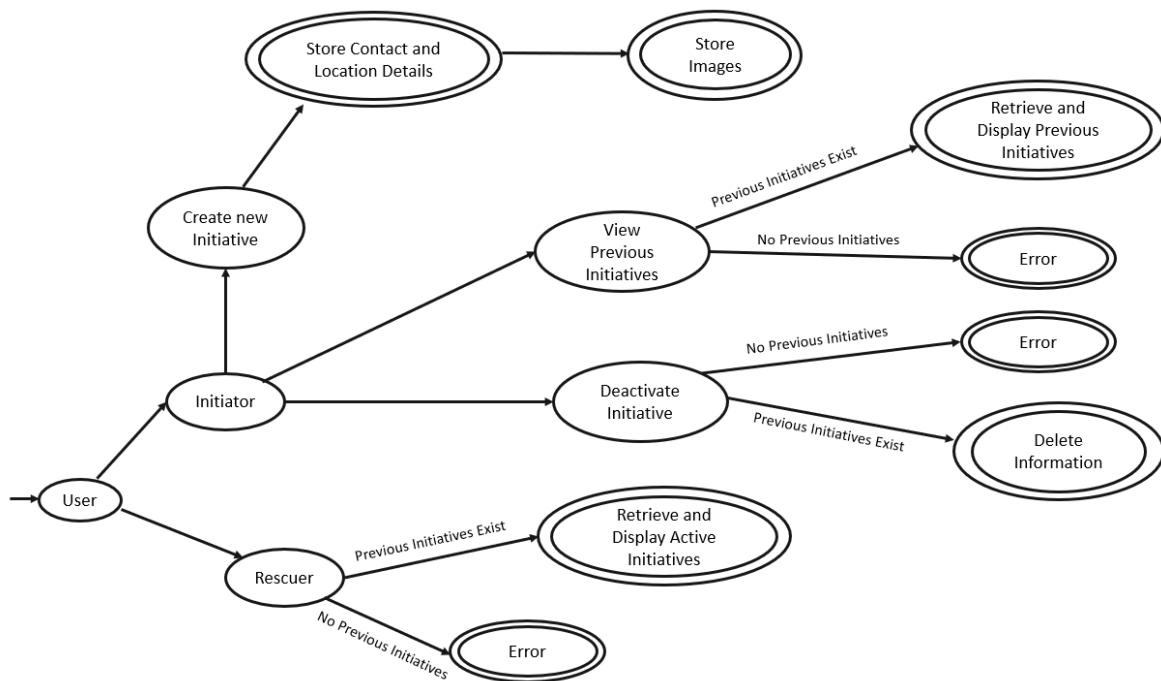


Fig 6. State Transition Diagram

1.4 Data Flow Diagram

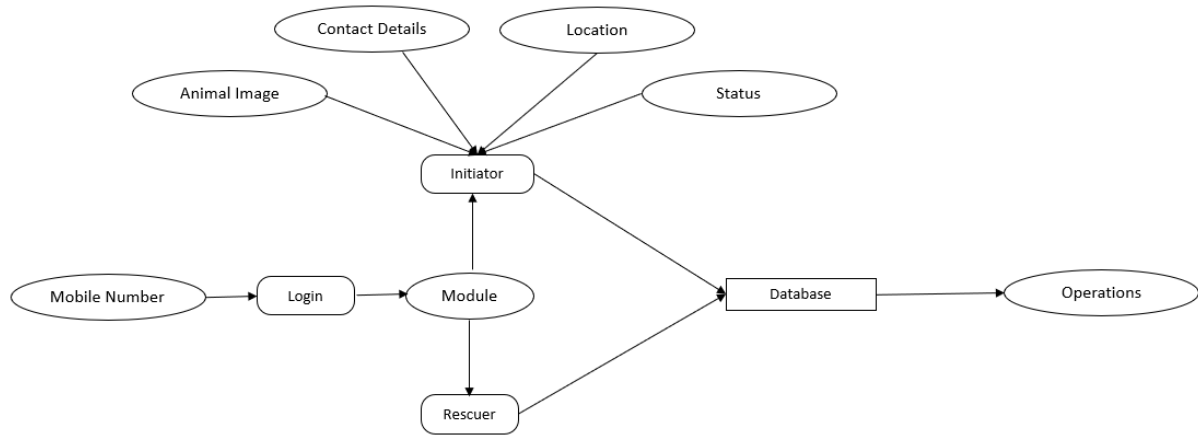


Fig 7. Data Flow Diagram

2. Human Interface Design

User Signup

Name

Email address

We'll never share your email with anyone else.

Password

Confirm Password

Signup as

Admin
▼

Already have an account? [Login here](#)




Fig 9. User Signup User Interface

3. System Design, Methodology & Rationale

The Software is developed using the Agile Approach. This allows the software to be developed faster and frequently delivered, giving continuous attention to technical excellence and good design and allowing regular adaptation to changing circumstances.

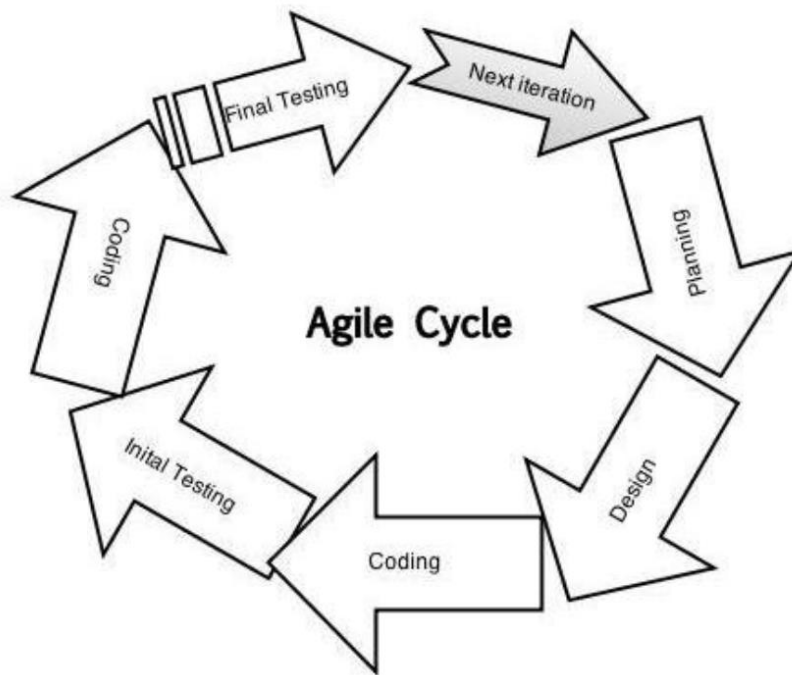


Fig 10. Agile Methodology Cycle

The Software is tested using the Hybrid Sandwich Approach which combines the advantages of the Top-Down and Bottom-Up approaches. This allows parallel testing and saves time. There are three layers involved:

- i. The Main Target Layer: which includes the Create Initiative Driver.
- ii. The Top Layer: which includes the Initiator Modules viz. View Previous Initiatives and Deactivate Initiative.
- iii. The Bottom Layer: which includes the Rescuer Module.

The testing is primarily targeted on the Main Layer. It helps to determine the develop the basic working system at the earliest stage of the software development cycle.

4. Data Design

4.1 Schema Diagram

4.1.1 User Database

```
const userSchema = new mongoose.Schema({
  Name: {
    type: String,
    required: true
  },
  email: {
    type: String,
    required: true
  },
  password: {
    type: String,
    required: true
  },
  gender: {
    type: String,
    enum: ["male", "female"]
  },
  address: String,
  phone: {
    type: Number,
    required: true
  },
  joinedTime: {
    type: Date,
    default: Date.now
  },
  role: {
    type: String,
    enum: ["donor"],
    required: true
  }
});
```

Fig 11. User Database Schema

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4.1.2 Adoption Database

```
const activitySchema = new mongoose.Schema({
  animal: {
    type: String,
    // ref: "users",
    required: true
  },
  breed: {
    type: String,
    // ref: "users",
  },
  Date: {
    type: Date,
    required: true
  },
  location: {
    type: String,
    required: true
  },
  imgString: {
    type: Buffer,
  },
  Message: {
    type: String
  },
  |
```

Fig 12. Adoption Database Schema