Project Plan Document: Animal Shelter Database

Kriti Bharadwaj (PES1UG22CS295) Keya Kesani (PES1UG22CS285)

September 30, 2024

1 Lifecycle Model

We have chosen the **Agile development model** for this project due to its flexibility and iterative nature.

1.1 Justification

- Flexibility: Agile allows for evolving requirements, which is important for dynamic projects like an animal shelter database.
- Incremental Progress: The project is broken into sprints, allowing us to deliver features iteratively, making scope management easier.
- User Involvement: Agile encourages continuous feedback from stakeholders, ensuring alignment with their needs.

2 Tools Throughout the Lifecycle

We have selected the following tools for each phase of the lifecycle:

- Planning Tool: Trello for task tracking and sprint management.
- Design Tool: Lucidchart for database schema and ER diagram design.
- Version Control: GitHub for source code management and version control.
- **Development Tool**: VSCode for coding and development (SQL, Python).
- Bug Tracking: JIRA for logging and tracking bugs.
- **Testing Tool**: Postman for API testing and JUnit for unit testing.

3 Deliverables and Reuse/Build Components

- Database Schema (reuse/build): Built based on standard database designs, with some portions reused from templates.
- Animal Management System (build): A custom-built feature to manage animal intake, medical records, and adoptions.
- Adoption Portal (build): A custom-built UI for users to browse animals for adoption.
- Reports Module (reuse/build): Reused with some customization for generating adoption reports.

3.1 Justification

Building custom features like the Animal Management System and Adoption Portal ensures the system caters to the shelter's needs. Reusing components such as the reports module saves development time.

4 Work Breakdown Structure (WBS)

1. Database Setup

- \bullet Design the schema for animals, adopters, medical records, etc.
- Create tables and define relationships.
- Implement triggers and stored procedures.

2. Backend Development

- Implement API to interact with the database.
- Develop authentication and user roles.
- Build endpoints for animal intake, adoption, and medical history.

3. Frontend Development

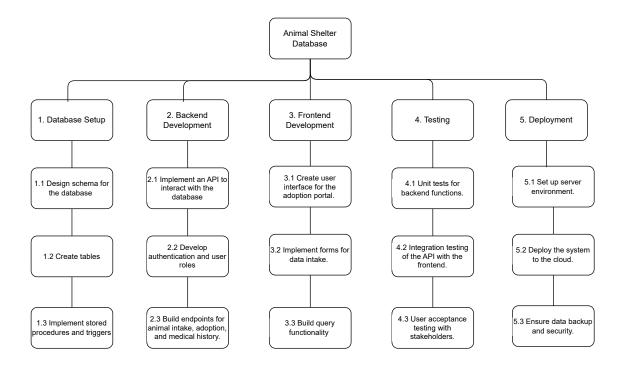
- Create a user interface for the adoption portal.
- Implement forms for intake and medical record entry.
- Build search functionality for available animals.

4. Testing

- Unit tests for backend functions.
- Integration testing of the API with the frontend.
- User acceptance testing with stakeholders.

5. Deployment

- Set up server environment.
- Deploy the system to the cloud (AWS/Heroku).
- Ensure data backup and security.



Phase based work breakdown structure.

5 Effort Estimation Gantt Chart

5.1 Effort Estimation (Person Months)

• Database Setup: 1 person-month

• Backend Development: 2 person-months

• Frontend Development: 2.5 person-months

• **Testing**: 1 person-month

• **Deployment**: 0.5 person-months

• Total Effort: 7 person-months

5.2 Gantt Chart

A Gantt Chart showing the schedule for each task is created using Microsoft Project or GanttProject, with the following key milestones:

- Database setup
- Backend API implementation
- Frontend UI development
- Integration and testing
- Final deployment

08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 Ensure data backup and security. Could be system to the cloud November 2024 User acceptance testing with stakeholders. Set up server environment. Integration testing of the API with the frontend. Deployment | 03/11/2024 - 11/11/2024 Build endpoints for animal intake, adoption, and medical history. 29 30 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 01 02 03 04 05 05 07 Unit tests for backend functions. mplement frontend code for the UI design with forms to capture user input Testing | 23/10/2024 - 02/11/2024 Develop authentication and user roles. Build query functionality Implement API to interact with the database. Create a user interface for the adoption portal. Implement triggers and stored procedures. Frontend Development | 08/10/2024 - 20/10/2024 Backend Development | 08/10/2024 - 22/10/2024 October 2024 ¥ Database Setup | 30/09/2024 - 07/10/2024 Design Schema Assigned Septembe ... Ke... ₹ Ke... Oper
Rri... • Done • In pr • Oper • Oper • Oper • Oper oper Oper Oper Oper Oper Oper Oper Status Design Schema Create tables Create a user ... Implement fr... Set up server ... Deploy the sy... Implement tri... Unit tests for ... Ensure data b... Develop auth... Integration te... Backend Develo... Implement A... Frontend Develo. Build query f... User accepta... Build endpoi... □ Database Setup Deployment □ Testing Task name 5.1 1.1 1.2 1.3 2.1 2.2 2.3 3.1 3.2 3.3 4.1 4.2 4.3 5.2 5.3

My Team | AnimalDB