

# Software Requirements Specification Document

## Animimic, UG2-Team 1

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### Brief problem statement

In today's digital age, there is a growing interest in animal behavior, ecosystems, and interactive simulations. However, existing platforms lack tools to simulate animal behaviors. We aim to create a website that integrates an animal behavior simulation, allowing users to explore how animals can act like others in an interactive way. Additionally, the platform will have feature blogs and a discussion forum for knowledge sharing, and discussions around animal behavior and related topics.

### System requirements

- **Frontend:** Use of frameworks like **React.js** for a responsive design and **JavaScript** libraries like **Three.js** for simulation of animal behaviour.
- **Backend:** Use of servers like **Node.js** and databases like **MongoDB** for user data and content management.
- Implement 3D animation with **Three.js**
- For real time interaction, **Socket.io** will be used.

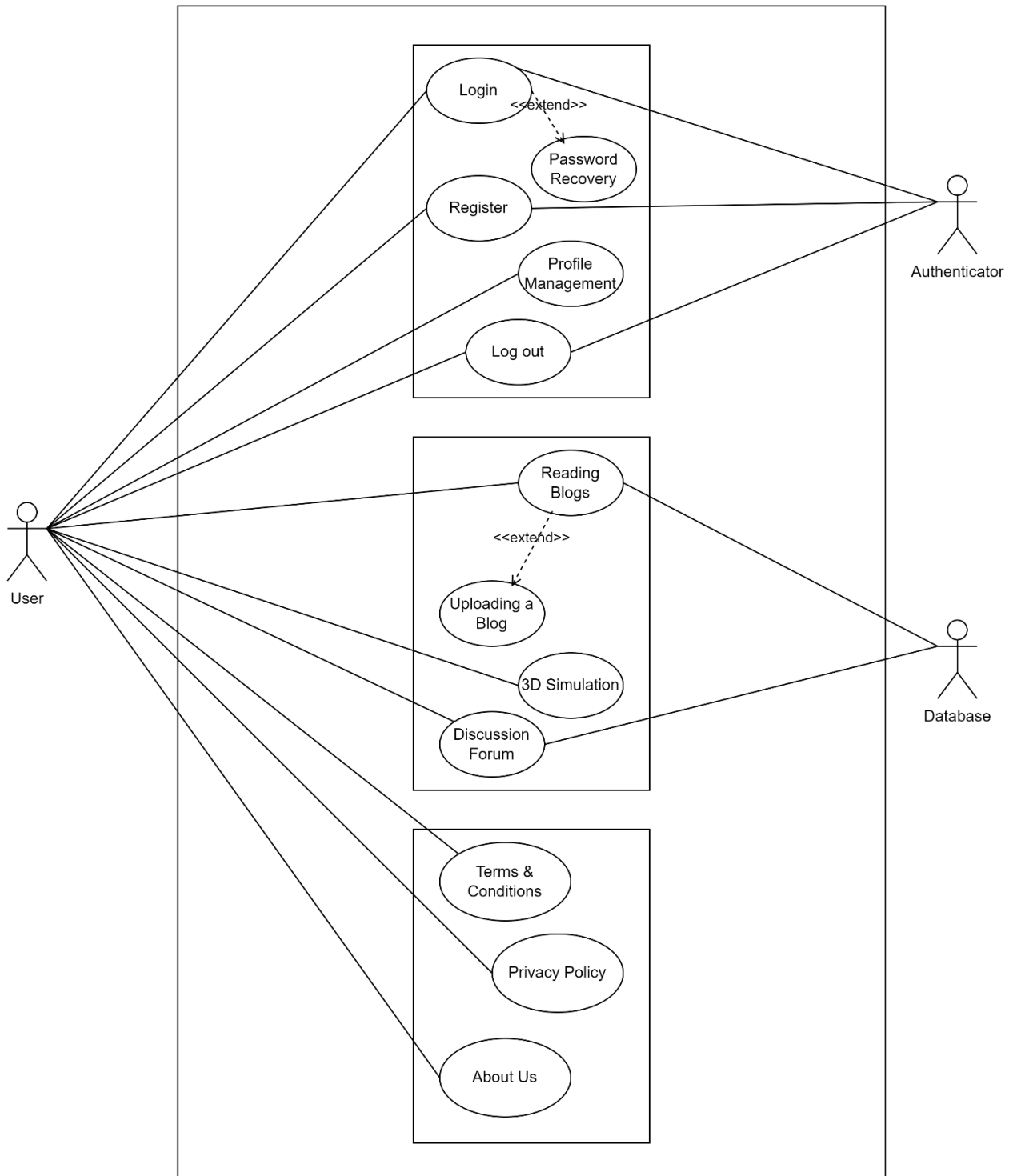
### Users profile

- **Parents and Kids:** Assist children with using the simulation and reading educational content regarding the animals.
- **Animal Enthusiasts:** Read blogs, participate in forums, and explore the simulation. They can also contribute by uploading any blogs or articles.
- **Pet Owners:** They can share their personal experiences, stories, and insights about their pets' behaviors through blog posts or forum discussions.
- **Casual Visitors:** Browse blogs and try out the simulation casually.

## Feature requirements (described using use cases)

No.	User Case Name	Description	Release
1.	Log in	Registered users can log in using their credentials (username/email/mobile number and password) to access their account.	R1
2.	Registration	New users can create an account by providing necessary information (username, email, password) to access the website's features.	R1
3.	Password Recovery	Users can reset their password by requesting a password reset option sent to their registered email address or mobile numbers.	R1
4.	Profile Management	Users can change their password, delete their account and log out.	R1
5.	Reading Blogs	Any registered user can read the blog which is posted in the website.	R2
6.	Uploading a Blog	Any registered user can upload their experiences or knowledge through blogs.	R2
7.	Discussion Forum	Any registered user can share their personal experiences, stories about their pet's or animal's behaviors through forum discussions and they can comment/reply to other discussions too.	R2
8.	3D Simulation of Animal behavior	Users can access the simulation feature to interact with virtual animals and observe their behaviors.	R1/R2
9.	Terms and conditions	It states the rules and regulations for using our website. This includes user responsibilities, acceptable use of the platform.	R2
10.	Privacy Policy	This describes how the website collects, uses, and protects the user's personal information.	R2
11.	Cookie Policy	This describes how a website or web application uses cookies and other tracking technologies.	R2
12.	About us	It gives a brief idea about the main aim of the website.	R2
13.	FAQ's Page	An FAQ (Frequently Asked Questions) page is designed to help users quickly find answers to common queries.	R2
14.	Log out	Users can securely log out from their account to protect their personal information.	R1

## Use case diagram



## Use case description

<b>Use Case Number:</b>	UC-01
<b>Use Case Name:</b>	Login
<b>Overview:</b>	Registered users can log in using their credentials (username/email/mobile number and password) to access their account.
<b>Actors:</b>	User
<b>Pre condition:</b>	The user must have a registered account.
<b>Flow:</b>	<p><b>Main (success) Flow:</b></p> <ol style="list-style-type: none"><li>1. The user navigates to the login page.</li><li>2. The user enters their username, email/mobile number and password.</li><li>3. The user clicks the "Log In" button.</li><li>4. The system validates the credentials.</li><li>5. The system redirects the user to their account dashboard.</li></ol>
	<p><b>Alternate Flows:</b></p> <ul style="list-style-type: none"><li>• <b>Invalid Credentials:</b><ol style="list-style-type: none"><li>1. The user enters incorrect credentials.</li><li>2. The system displays an error message indicating invalid credentials.</li><li>3. The user can retry logging in.</li></ol></li></ul>
<b>Post Condition:</b>	The user is logged into their account and can access website features

<b>Use Case Number:</b>	UC-02
<b>Use Case Name:</b>	Register
<b>Overview:</b>	New users can create an account by providing necessary information (username, email, password) to access the website's features.
<b>Actors:</b>	User
<b>Pre condition:</b>	The user must be new to the website

<b>Flow:</b>	<b>Main (success) Flow:</b> <ol style="list-style-type: none"> <li>1. The user navigates to the registration page.</li> <li>2. The user fills in the required information (username, email, password).</li> <li>3. The user clicks the "Register" button.</li> <li>4. The system validates the information and creates a new account.</li> </ol>
	<b>Alternate Flows:</b> <ul style="list-style-type: none"> <li>• <b>Duplicate Email:</b> <ol style="list-style-type: none"> <li>1. The user enters an email that is already registered.</li> <li>2. The system displays an error message indicating that the email is already in use.</li> <li>3. The user can enter a different email.</li> </ol> </li> </ul>
<b>Post Condition:</b>	The user is successfully registered and can log in with their credentials.

<b>Use Case Number:</b>	UC-03
<b>Use Case Name:</b>	Password Recovery
<b>Overview:</b>	Users can reset their password by requesting a password reset option sent to their registered email address or mobile number.
<b>Actors:</b>	User
<b>Pre condition:</b>	The user must have a registered account
<b>Flow:</b>	<b>Main (success) Flow:</b> <ol style="list-style-type: none"> <li>1. The user enters their registered email address or mobile number.</li> <li>2. The user clicks the "Send Reset Link" or "Send OTP" button.</li> <li>3. The system sends a password reset link or OTP to the user's email or SMS.</li> <li>4. The user follows the link or OTP and resets their password.</li> </ol>
	<b>Alternate Flows:</b> <ul style="list-style-type: none"> <li>• <b>Email/Mobile Not Registered:</b> <ol style="list-style-type: none"> <li>1. The system displays an error message indicating that the email/mobile number is not recognized.</li> <li>2. The user can retry entering the correct information.</li> </ol> </li> </ul>
<b>Post Condition:</b>	The user has successfully reset their password.

<b>Use Case Number:</b>	UC-04
<b>Use Case Name:</b>	Profile Management
<b>Overview:</b>	Users can view and edit their profiles, including updating their personal information and profile pictures.
<b>Actors:</b>	User
<b>Pre condition:</b>	The user must be logged into their account.
<b>Flow:</b>	<p>Main (success) Flow:</p> <ol style="list-style-type: none"> <li>1. The user makes desired changes (updates information or uploads a new profile picture).</li> <li>2. The user clicks the "Save Changes" button.</li> <li>3. The system updates the profile information and confirms the changes.</li> </ol>
	Alternate Flows: NIL.
<b>Post Condition:</b>	The user's profile information is updated successfully.

<b>Use Case Number:</b>	UC-05
<b>Use Case Name:</b>	Reading Blogs
<b>Overview:</b>	Any registered user can read the blogs posted on the website
<b>Actors:</b>	User
<b>Pre condition:</b>	The user must be logged into their account.
<b>Flow:</b>	<p><b>Main (success) Flow:</b></p> <ol style="list-style-type: none"> <li>1. The user navigates to the blogs section of the website.</li> <li>2. The user selects a blog to read.</li> <li>3. The system displays the selected blog's content.</li> <li>4. The user can scroll through and read the blog.</li> </ol>
	<b>Alternate Flows:</b> Nil
<b>Post Condition:</b>	The user has read the blog successfully.

<b>Use Case Number:</b>	UC-06
<b>Use Case Name:</b>	Uploading a Blog
<b>Overview:</b>	Any registered user can upload their experiences or knowledge through blogs
<b>Actors:</b>	User
<b>Pre condition:</b>	The user must be logged into their account.
<b>Flow:</b>	<p><b>Main (success) Flow:</b></p> <ol style="list-style-type: none"> <li>1. The user navigates to the blog upload section.</li> <li>2. The user enters the blog title and content.</li> <li>3. The user uploads any relevant images (if applicable).</li> <li>4. The user clicks the "Submit" button.</li> </ol>
	<b>Alternate Flows:</b> Nil
<b>Post Condition:</b>	The blog is successfully uploaded and visible to other users.

<b>Use Case Number:</b>	UC-07
<b>Use Case Name:</b>	Discussion Forum
<b>Overview:</b>	Any registered user can share their personal experiences or stories about their pets or animal behaviors through forum discussions.
<b>Actors:</b>	User
<b>Pre condition:</b>	The user must be logged into their account.
<b>Flow:</b>	<p><b>Main (success) Flow:</b></p> <ol style="list-style-type: none"> <li>1. The user navigates to the discussion forum.</li> <li>2. The user selects a topic or starts a new discussion.</li> <li>3. The user writes and submits their post.</li> <li>4. The system displays the new post in the forum.</li> </ol>
	<b>Alternate Flows:</b> Nil
<b>Post Condition:</b>	The user's post is successfully added to the discussion forum.

<b>Use Case Number:</b>	UC-08
<b>Use Case Name:</b>	3D Simulation of Animal Behavior
<b>Overview:</b>	Users can access the simulation feature to interact with virtual animals and observe their behaviors.
<b>Actors:</b>	User
<b>Pre condition:</b>	The user must be logged into their account.
<b>Flow:</b>	<p><b>Main (success) Flow:</b></p> <ol style="list-style-type: none"> <li>1. The user selects a virtual animal to interact with.</li> <li>2. The user engages with the animal through various actions (e.g., feeding, playing).</li> <li>3. The system displays the animal's behavior in response to user actions.</li> </ol>
	<b>Alternate Flows:</b> Nil
<b>Post Condition:</b>	The user has successfully interacted with the virtual animal.

<b>Use Case Number:</b>	UC-09
<b>Use Case Name:</b>	Terms & Conditions
<b>Overview:</b>	It states the rules and regulations for using our website, including user responsibilities and acceptable use of the platform.
<b>Actors:</b>	User
<b>Pre condition:</b>	The user must be logged into their account.
<b>Flow:</b>	<p><b>Main (success) Flow:</b></p> <ol style="list-style-type: none"> <li>1. The user reads the terms and conditions.</li> </ol>
	<b>Alternate Flows:</b> Nil
<b>Post Condition:</b>	The user has successfully read all the terms and conditions



<b>Use Case Number:</b>	UC-10
<b>Use Case Name:</b>	Privacy Policy
<b>Overview:</b>	This describes how the website collects, uses, and protects users' personal information.
<b>Actors:</b>	User
<b>Pre condition:</b>	The user must be logged into their account.
<b>Flow:</b>	<b>Main (success) Flow:</b>  1. The user reads the privacy policy.
<b>Post Condition:</b>	The user has successfully read the privacy policy

<b>Use Case Number:</b>	UC-11
<b>Use Case Name:</b>	Cookie Policy
<b>Overview:</b>	This describes how a website or web application uses cookies and other tracking technologies
<b>Actors:</b>	User
<b>Pre condition:</b>	The user must be logged into their account.
<b>Flow:</b>	<b>Main (success) Flow:</b>  1. The user reads the cookie policy.
<b>Post Condition:</b>	The user has successfully read the cookie policy

<b>Use Case Number:</b>	UC-12
<b>Use Case Name:</b>	About Us
<b>Overview:</b>	It gives a brief idea about the main aim of the website.
<b>Actors:</b>	User
<b>Pre condition:</b>	The user must be logged into their account.
<b>Flow:</b>	<b>Main (success) Flow:</b>  1. The user reads the page of About Us.
<b>Post Condition:</b>	The user has successfully read the page of About Us

<b>Use Case Number:</b>	UC-13
<b>Use Case Name:</b>	FAQs
<b>Overview:</b>	It answers the common queries of the users.
<b>Actors:</b>	User
<b>Pre condition:</b>	The user must be logged into their account.
<b>Flow:</b>	<b>Main (success) Flow:</b> <ol style="list-style-type: none"> <li>1. The user reads the page of Frequently Asked Questions.</li> </ol>
<b>Post Condition:</b>	The user has successfully read the page of Frequently Asked questions

<b>Use Case Number:</b>	UC-14
<b>Use Case Name:</b>	Log out
<b>Overview:</b>	Users can securely log out from their account to protect their personal information.
<b>Actors:</b>	User
<b>Pre condition:</b>	The user must be logged into their account.
<b>Flow:</b>	<b>Main (success) Flow:</b> <ol style="list-style-type: none"> <li>1. The user clicks the "Log Out" button.</li> <li>2. The system terminates the user's session.</li> </ol>
<b>Post Condition:</b>	The user is logged out of their account and cannot access personal features until they log in again.