Pet Tracking System Using Blockchain

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January 27, 2025

Overview

- Problem and Necessity
- Solution - Model
- Intrinsic Value
- Widespread Effect
- Team Members and Their Duties
- Work Packages

Problem and Necessity

- Problem: Tracking of shelter, pet, and street animals.
- Necessity: Ensuring a safe and clear relationship between humans and animals.

Solution - Model

- There will be 2 types of users: Authorized People and Daily Users.
- Authorized People (AP): Responsible for the animals and generally work at a vet or shelter. APs must be members of the system.
- Daily Users (DU): Can be anyone, even if they don't own any pets. DUs don't need to sign up for the system, but if they own a pet, they must.

Example Model

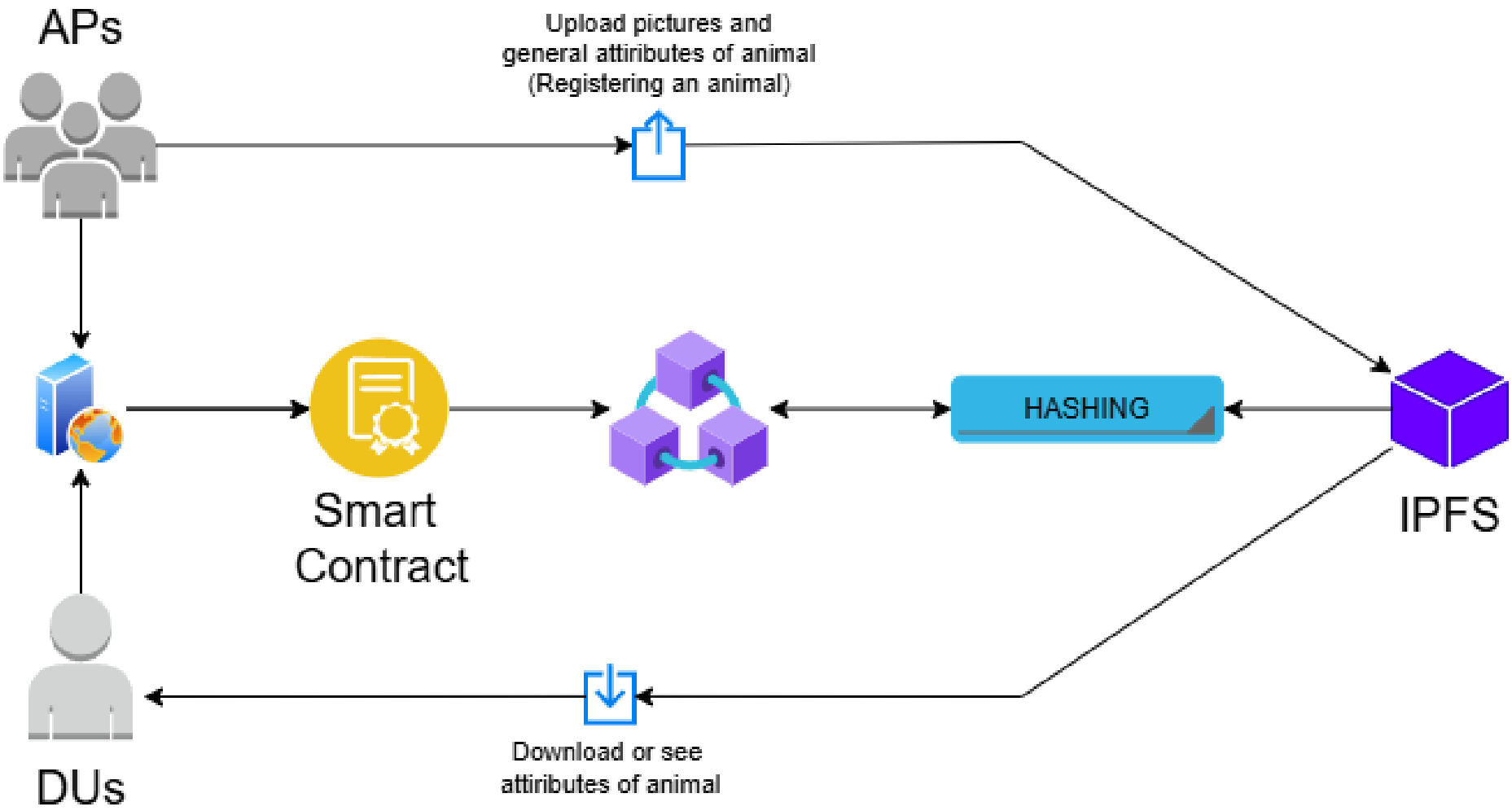

Figure: Project Model

Explanation of Model

- Step 1: Registering an Animal

  An authorized person can add an animal. The registration of an animal requires both writing on Blockchain and IPFS. This will be the first transaction of a block.

Explanation of Model

- Step 2: Processing an Animal

  If a vet vaccinates an animal, this process will be written to a block. This transaction will remain there forever and cannot be changed.

Explanation of Model

- Step 3: Finding Out Animal Information

  A person (not just system users) can search for an animal by its ID. In the back-end, the system retrieves the animal's information from IPFS. A button will display the full transaction history, allowing anyone to check any animal.

Explanation of Model

- Step 4: Adopting an Animal

  A user can search for animals in shelters or at vets. The user can view attributes and transaction history. If they wish to adopt, they send a request, and the system alerts the authorized people. These individuals check whether the user meets the necessary requirements (e.g., having a garden for a Golden Retriever). If requirements are met, the adoption is approved, and the user selects a date to adopt.

Intrinsic Value

- There is an excessive number of street animals in Turkey. These animals may pose risks to humans, especially children. We believe this issue arises due to insufficient adoption and a disorganized shelter system.

  This system aims to flawlessly track every animal registered. It allows us to identify who owns which animal and better monitor animals without owners. For instance, if an animal disappears from a shelter, the shelter must provide a reason. Additionally, if an animal is found on the street, its medical history can be accessed.

Widespread Effect

- Tracking pets, shelter, and street animals will become easier, enabling the government to implement policies effectively. This makes managing the animal population more efficient.

  As control over street animals increases, incidents of animal attacks on children will decrease, contributing to more peaceful streets.

Team Members and Their Duties

- Rıdvan Barış Özden: Development of smart contracts.
- Ozan Uslan: Integration of IPFS and development of web UI.

Work Packages

Work Package Number	Work Package Name and Objectives	Who Will Carry It Out	Time Frame	Success Criteria and Contribution to the Project's Success
1	Designing a user-friendly and simple web interface.	Ozan Uslan	0-1 ay	25%
2	Using IPFS for storing user information, animal data, and other details in a decentralized database.	Ozan Uslan	1-2 ay	25%
3	Creating a smart contract to ensure that each transaction is written to the block in an immutable and transparent manner.	Rıdvan Barış Özden	0-2 ay	25%
4	Checking the user's capabilities to adopt the animal.	Rıdvan Barış Özden	1-2 ay	25%

Figure: Work Packages

Thank you. Q&A ...