Abstract

The way thoroughbred horses are tracked throughout their lifetime is deeply antiquated and flawed. The current paper-based system allows for doping in racehorses and fraud resulting in horses not fit for human consumption entering the food chain. This system also requires a high degree of trust between the owners of a horse, and those put in charge of its care.

This paper proposes a new system of tracking horses that utilises the Ethereum blockchain. The blockchain has several attributes that makes it suitable for a system tracking horses, such as immutability and transparency. The proposed system also makes use of smart contracts to allow for more flexible relationships between the managers of a horse and one or more owners of a horse, than can exist currently.

The design and implementation details of such a system are discussed as well as the considerations given to the security, privacy and cost elements. Scalability and the ability to update data in the system are outlined. It was found that the proposed system is able to execute all of the required functionality at an affordable price point.