Team Name

The Goblins

Team Member Responsibilities

Sameer Dandekar:	Frontend UX design, mobile dev (iOS)
Nathan Kennedy:	Backend development / Frontend-Backend integration
Ankita Khera:	Backend development / Frontend-Backend integration
Rachel Kitchen:	Frontend UX design, web dev
Niles Rogoff:	Backend development, blockchain specialist

Abstract

Students are not rewarded for attending more VT sports events throughout the year, especially through the lottery system. For popular events, tickets sell out and then students resell their ticket for hundreds of dollars beyond market value, unregulated by the university since students can print tickets and send them to others. The current student ticket system requires a VT login, and gives students one of three options: 1) buy a season pass, 2) buy tickets per game at full sale price, or 3) enter the student lottery. We intend to create a blockchain-based system to replace the VT student sports ticket system with a focus on the student lottery and football tickets. The EOSIO blockchain will be used to validate, store, and manage various transactions, which will be based around an EOSIO token called a “Hokie Token” with the symbol “HTK”. These transactions and actions on the blockchain will include ticket exchanges, lottery winners, and auction winners, and involvement in games with students receiving tokens for attendance. Each user will have their own EOSIO account on the blockchain corresponding to their username, and they will have the option to manage it through our application or manage it manually. As a result, students will benefit from a fair distribution system and will enjoy the ticketing and sporting event experience. Virginia Tech will benefit from subduing the ticket black market, allowing the school to fully regulate and profit from the sale of tickets, whether they be sold first-hand or second-hand. The broader community will benefit from greater enthusiasm resulting from incentivizing students who display exemplary school spirit.

Technical Description

For our minimum viable product, we will have a website front-end along with a login interface providing for unique usernames and passwords, as well as a portal for account information. These applications will provide four key transactional features -- buying and selling tickets to and from Virginia Tech, entering the ticket lottery, and receiving a ticket from the lottery. Administrators will create games and tickets, execute student lotteries, and be able to see a list of active tickets for a game. Each ticket, game, and user is stored on the EOSIO blockchain and managed through a smart contract called `hokipoki`. We will begin

development by creating a server to host our application, and setting up means of communicating with the EOSIO blockchain platform. After that, we will begin working in separate groups on the backend and frontend, and ultimately come back together to work on integrating the two for a seamless application. For the blockchain and back-end development we will be using a variety of tools. We will be using EOSIO for the blockchain/backend implementation, AWS for hosting the server, GitLab for version control, and Mako-Server for a web-server and templating engine. For the front-end design we will be using MarvelApp to create visual prototypes and React for the web-application framework. The user interface and experience development will start with workflows and design mock-ups before actual programming begins. The functions available on the website will be mapped out and ranked by importance. User experience with the current ticket system will be evaluated to identify potential improvements for our product's user experience. Successful ticket distribution platforms along with payment services will also be analyzed to find patterns in user experience.