Please enter a jargon-free, 250-word abstract that answers the following questions regarding the blockchain application you propose to develop.

 What do you want to do?

Which of the 4 prompts does your solution address?

How is it done today?

Who in the VT community will benefit?

 How will you use the blockchain? Smart contracts? EOSIO?

If it works, how will it help the VT community?

Virginia Tech uses a lottery to distribute tickets to students for football and basketball games. For popular events, tickets sell out and often 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. As an effect, many passionate fans are squeezed out of this experience and not rewarded for their enthusiasm. HokieTickets seeks to create a fairer, more enjoyable blockchain-based system to replace the VT student sports ticket system with a focus on the distribution of tickets and incentivizing participation. The EOSIO blockchain is used to validate, store, and manage various transactions with tickets, games, and users managed through a smart contract. Using EOSIO to validate transactions ensures the school knows who’s at the game, how many, and that students are rewarded for attending. This system provides a sense of security and trust in the system for both school administrators and students. 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 at Virginia Tech will benefit from renewed enthusiasm resulting from incentivizing students who display exemplary school spirit.

Please enter a 250-word technical description that answers the following questions regarding the blockchain application you have developed.

Describe your solution and how you got there.

Include a description of the usability and front-end.

Include a description of the back end and use of EOSIO, smart contracts, cryptocurrency (if used).

Include anything else that will help us understand what you've created and why it is awesome.

HokieTickets prevents scalping and incentivizes student participation at all Virginia Tech sporting events. Using the website or mobile app, students can buy, sell, and auction tickets as well as enter traditional game lotteries. They can also view their account information and transaction history. School administrators can open and execute lotteries and use the mobile app to scan and validate tickets with unique QR codes. The website leverages Mako as a web-server and a templating engine, which the iOS app communicates with via HTTP requests. On the backend, each ticket, game, and user is stored on the EOSIO blockchain and managed through a smart contract. The EOSIO blockchain is used to validate, store, and manage various transactions, which are based around an EOSIO token called a “Hokie Token” with the symbol “HTK”. These transactions and actions on the blockchain include ticket exchanges, lottery winners, and auction winners, and involvement in games with students receiving tokens for attendance. Each user has their own EOSIO account on the blockchain corresponding to their username. The application is stored and hosted on an AWS server. This system secures that transactions of all tickets are visible to Virginia Tech and allows students to be rewarded instantaneously for their attendance, building trust and spirit in the community.