

CMSC 389C Final Project

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Description

Our currency (ERC-721) is based on buying and selling Runescape items via a bidding system, using in-game currency, and is inspired by CryptoKitties. The smart contract would be used as a means of a marketplace for the game and would allow users to safely and quickly trade items without worrying about dishonest participants

Properties:

- Smart contract to allow bidding of RuneScape Items
- Items are tokens in the ERC-721 contract
- Allow a user to put an item up for sale
- Let multiple different users bid on the item
- The item price must update to all new and existing bidders
- Items would be bid with in game currency
- Allow instant sell
- RuneScape item have independent levels and can rack up additional stats through gameplay: Bronze, Silver, Gold, Mithril, Rune... etc
- Keep track of time left on item
- Dishonest participants face banishment and also gas loss

Criteria:

- Must be able to handle a variable amount of participants
 - Multiple people can bid on one item.
- Must have at least one payable function
 - Bid function (description above) Must be above current bid and must have that amount of currency in their reserves
- Must punish any dishonest participants in the contract
 - Cannot bid more than what they have, if leading bidder on multiple bids, the money is locked until the bid is resolved or the bid is outbid.
 - Suspicious users are temporarily banned and are monitored for any suspicious activity. If they are still bad actors, they will be perma-banned.
- Must disallow new participants after the contract is over/finished (if your contract has a terminal state)
 - As soon as auction is over, no more bids can be placed on the bid.