Dundo

About

It is a delivery service on the blockchain modeled along the lines of Dunzo(Like Uber Eats but its not just food). Since there is no middle-man, the delivery fee is lower, and the delivery earnings are higher.

Placing an order
The user registers on the platform by providing their physical address to which they want an item to be delivered. When they want to place an order, they specify a physical address from which they want an item to be picked up, along with instructions on what to do(Eg. “Get 2 bottles of shampoo from this supermarket”).

“Deliver for us”

Alternately, the user can register as a delivery user by specifying their delivery center&radius. The ‘Accept an order’ button can be clicked anytime. The user will be added to a queue waiting for orders to arrive.

Payments

Both the Customer and the Delivery User have to pay a **Security Deposit** of 0.033 Eth upfront, in order to place/accept an order. The customer will get a randomly generated 4-digit pin when the order goes through. Any item fee(ex. The shampoo cost) is handled at the customer’s door in cash. On successful completion of the delivery, the customer gives the pin to the delivery user, who enters it into the contract. When this happens, a refund is immediately triggered. The customer will get back (Security Deposit - Delivery Fee). The Delivery User will get back(Security Deposit + Delivery Fee).

It is in the best interest of both parties to cooperate towards a successful delivery, otherwise *both* security deposits will be forfeited. This ensures that scamming is not a profitably stable strategy at either end.

Technical Details of the Smart Contract
It is written in solidity. When a user registers, their blockchain address gets recorded in the form of a mapping to a struct with their physical address. So, there is no need to ever ‘log in’ again, unless they change their wallet. The PlaceOrder() and Deliver() functions are payable. The queue of delivery users waiting to receive an order is processed using the customer’s gas until a suitable match is found. Physical addresses need to be specified in the form of latitude and

longitude with the aid of google maps. Currently, the delivery fee is set at 0.0015 Eth, but it is updatable by through an external function(Only Owner).

Improvements Needed

- An Oracle to get the distance between two points directly from Google Maps API
- Gas optimization
- Handling of item fee on the platform, rather than the current model which uses cash
- Better algorithm for assignment of deliveries