Exchange Interface

A short outlook

Token Management

- addToken(string symbol_name, address erc20TokenAddress) onlyowner
  - Adds a token with a symbol_name
  - At a specific address
- hasToken(string symbol_name) constant returns (bool)
  - Returns true a token can be traded

Funds (Token) Management

- depositToken(string symbolName, uint amount)
  - Tries to send tokens „in the name of the msg.sender“ to the exchange contract for the Symbol
  - More on that in detail later
  - Cannot be sent directly!
- withdrawToken(string symbolName, uint amount)
  - Withdraws an amount of token
  - Sends it directly to a specific address
    - If enough balance of course
- getBalance(string symbolName) constant returns (uint)
  - Returns the token balance for the address that calls.

Funds (Ethereum) Management

- depositEther() payable
  - Is „payable“
  - Receives Ether
- withdrawEther(uint amount_in_wei)
  - Sends funds directly to the calling address
- getEthBalanceInWei() constant returns (uint)
  - Returns the current balance

Place Orders

- buyToken(string token, uint priceInWei, uint amount)
  - Tries to buy an „amount“ of „tokens“ for „priceInWei“ each
  - If sell-offers (ask) are available with price<=priceInWei
    - Order Executed
  - Else: a limit order is created
- sellToken(string token, uint priceInWei, uint amount)
  - Tries to sell an “amount” of “token” for “priceInWei
  - If buy-orders (bid) are available with price>=priceInWei
    - OrderExecuted
  - Else: a limit order is created

Order Management

- cancelOrder(string symbolName, bool isSellOrder, uint priceInWei, uint offerKey)
  - Cancels an order from the calling-address for a "symbolName", for a specific price
- getSellOrderBook(string token) constant returns (uint[], uint[])
  - Returns the "Ask" Orders, ordered from the lowest to the highest price
    - Aggregated by Price
    - And a second array with the volumes
- getBuyOrderBook(string token) constant returns (uint[], uint[])
  - Same as sell order book, just inverted ordering

Key Takeaways

- We defined functions for each functionality
- Outlined what parameters we expect
- Usually done during prototyping
- Next step: Make sure we know our datastructures.

Thanks!

- Questions?
  - Wait for the next lectures
  - It‘s very theoretical
  - Keep watching!
- Still questions?
  - Head over to the Q&A