ER

Party:

- walletAddress - address

- Id - uint

- name - string

- contactNumber - string

- email - string

- password - string

- trustScore - uint

- createdAt - timestamp

Tender:

- issuerAddress - address

- createdAt - timestamp

- deadline - timestamp

- title - string

- description - string

- budget - uint

- totalMilestones - uint -3

- tenderStatus - enum - (NEW - created, OPEN - approved by validators, CLOSED - deadline , SUSPENED - rejected, ASSIGNED - when bid is selected)

- tenderAddress - address

- validatorAddresses [] - array[]

- milestoneTimePeriods = [10 days, 10 days, 5 days]

Bid:

- quotedAmount - uint

- bidderAddress - address

- tenderAddress - address

- bidStatus - enum - (PENDING, REJECTED, APPROVED)

- createdAt - timestamp

- bidClause - string

Project:

- TenderAddress - address

- IssuerAddress - address

- selectedBidderAddress - address

- completedMilestones - uint - current milestone

- completedMilestoneTimePeriods - [10 days, 12 days, 4 days]

- workScore - [totalmillestones] - workScore[0] = 10/10

- createdAt - timestamp

- feedback- string

- rating - uint

- projectStatus - enum (ONGOING, COMPLETED, HALTED)

```
workScore[i] =  milestoneTimePeriods[i]  / completedMilestoneTimePeriods[i]
rating = avg(workScore[i])  where i  = [1, totalMilestones]
trustScore = avg(rating of each project for the concerned party)
```

Functions:

- Party

  - createParty

  - updateParty

- deleteParty
- getPartyDetails
- updateTrustScore *

- Tender
  - createTender → chooseValidators *
  - validateTender *
  - deleteTender
  - getTenderDetails (particular tender)
  - getAllTenders (all open tenders)
  - getTenders (my tenders)
  - updateTender * (if suspended - future work)
  - updateTenderStatus
  - updateTenderDeadline
- Bid
  - createBid
  - updateBid
  - deleteBid
  - getAllBids (for tender)
  - getBidDetails (by bid owner and tender owner)
  - updateBidStatus
  - selectBestBid (send top 5 of lowest bid or (50% of trust + 50% of lowest bid * → differnece btwn budget amount and quoted amount)) *
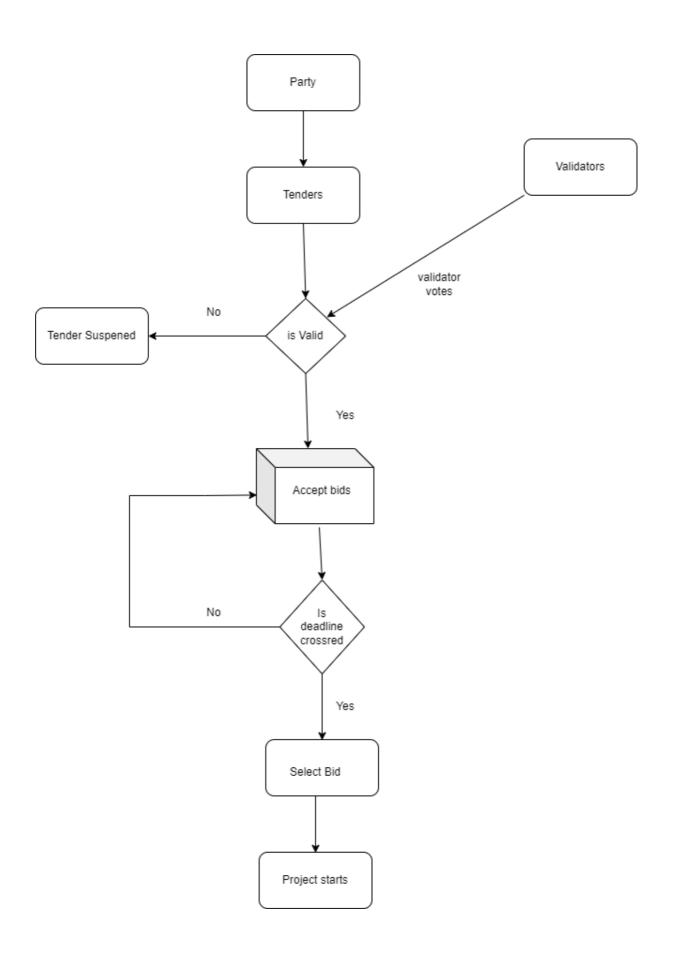 - transferFunds(send to tender account from selected bidding owner)

- Project *
  - createProject
  - updateProject (status, milestones)
  - transferRewards (to bidder owner and validators)

- updateWorkScore

- updateRating (to bidder owner → update trust score)

WorkFlow

```
                        ┌──────────────┐
                        │    Party     │
                        └──────┬───────┘
                               │
                               ▼                        ┌──────────────┐
                        ┌──────────────┐                │  Validators  │
                        │   Tenders    │                └──────┬───────┘
                        └──────┬───────┘                       │
                               │                        validator
                               │                         votes
                               ▼                              │
       No                   ◇ is Valid ◇ ◄───────────────────┘
┌──────────────┐ ◄─────────
│Tender Suspened│
└──────────────┘
                               │ Yes
                               ▼
                        ┌──────────────┐
                ┌──────►│  Accept bids │
                │       └──────┬───────┘
                │              │
                │              ▼
                │         ◇ Is deadline ◇
          No    └─────────   crossred
                               │ Yes
                               ▼
                        ┌──────────────┐
                        │  Select Bid  │
                        └──────┬───────┘
                               │
                               ▼
                        ┌──────────────┐
                        │ Project starts│
                        └──────────────┘
```

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