# Design Document

## Team: Zero Defects

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# Solution Structure:

## Classes:

User Input/Ouput

Main

TxnProcess

Utility

ErrorHandler

## 

## Methods:

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| --- | --- | --- |
| Classes | Functions | Intentions |
| Main | Main | To prompt user for user input and call correct TxnProcess functions based on the transaction code entered by the user. |
| TxnProcess | txn\_login | Function to process a user login transaction code.  Sets user type (machine,agent) and reads the valid accounts file. |
| txn\_logout | Function to process a user logout transaction code.  Logs out the current user and creates transaction summary file. |
| txn\_deposit | Function to process a user deposit transaction code.  Checks if account number and deposit amount are valid. |
| txn\_createacct | Function to process a user createacct transaction code.  Checks if account number and account name are valid before creating account. |
| txn\_deleteacct | Function to process a user deleteacct transaction code.  Checks if account number and account name are valid before deleting account. |
| txn\_withdraw | Function to process a user withdraw transaction code.  Checks if account number and withdraw amount are valid before processing withdrawal. |
| txn\_transfer | Function to process a user transfer transaction code.  Checks if \"From\" and \"To\" account number and transfer amount are valid before processing transfer. |
| Utility | process\_account\_file | Function to process valid accounts file.  Valid account numbers are stored in TxnProcess.valid\_acc\_list. |
| initiaze\_withdraw\_totals | Function to initiliaze withdrawal amounts for each valid account. |
| create\_txn\_msg | Function to form the transaction msg to be added into the transaction summary file. |
| create\_txn\_summary\_file | Function to write all cached transaction messages to transaction summary file. |
| is\_account\_valid | Function to check if passed in account number is valid. |
| is\_account\_unique | Function to check if passed in account number is unique (or new). |
| is\_amount\_valid | Function to check if passed in amount is within limits for machine and agent users.  Used by deposit, withdraw, and transfer transaction commands. |
| is\_name\_valid | Function to check if passed in account name is valid. |
| is\_within\_withdraw\_limit | Function to check if passed in account will surpass daily withdraw limit by completing pending withdrawal.  Returns False if limit will be reached with pending withdrawal, true if withdrawal is valid. |
| ErrorHandler | process\_error | Function to send error string to stdout. |
| \_\_init\_\_ | Initialize error code to error string mapping. |