**Program Name: Investment-Analysis-Program**

1. ***Introduction***

This is a web function made by ***Python Flask/ Django*** which allows user to:

1. scrape code of NASD stock.
2. Extract information data from Yahoo Finance and store in database.
3. ***UI Page Structure Design***
   * 1. Sign Up Page

|  |  |  |  |
| --- | --- | --- | --- |
| ***Item*** | ***Data Type*** | ***Type*** | ***Description*** |
| username | VARCHAR (12) | Field | User login userID |
| password | VARCHAR (15) | Field | User login password |
| display name | VARCHAR (15) | Field | Display after showing notification and in app |
| email | VARCHAR (30) | Field | Use for finding password/ change password && receive confirmation code for verify purpose |
| birthdate | DATE | DATE | Use for finding password/ change password |
| Secure Question | TEXT | Dropdown List | Use for finding back password |
| Secure Answer | TEXT | Field | Use for finding back password |

*Press [Submit] to finish the process.*

* + 1. Sign Up Page

|  |  |  |  |
| --- | --- | --- | --- |
| ***Item*** | ***Data Type*** | ***Type*** | ***Description*** |
| username | VARCHAR (12) | Field | User login userID |
| password | VARCHAR (15) | Field | User login password |

*Press [Sign In] to finish the process.*

* + 1. *Key Screen Page*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Item*** | ***Data Type*** | ***Type*** | ***Input/ Output*** | ***Description*** |
| Action | Action | Radio Button | Input | Choose action to execute:   1. Download the code 2. Download Transaction Info. |
| Upload | File | Upload Button | Input | If action 2 is selected: Upload the code list in .txt file to download the list from the function. |
| Code List | TXT file | - | Output | NASD code download from web if action 1 is selected |
| Stock Transaction | CSV file | - | Output | Transaction data download from web if action 2 is selected |

*Press [Execute] Button to run the action*

* + 1. *Transaction Analysis Code*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Item*** | ***Data Type*** | ***Type*** | ***Input/Output*** | ***Description*** |
| Stock Code | VARCHAT(8) | Dropdown List | Input | The specific code you want to focus/ invest |
| code | VARCHAR (8) | Read | Output | Code |
| date | VARCHAR (10) yyyy/MM/dd | Read | Output | Transaction Time |
| codeOpen | DECIMIAL (12,2) | Read | Output | Price at Open Market |
| codeClose | DECIMIAL (12,2) | Read | Output | Price at Close Market |
| codeVolume | INTEGER | Read | Output | Volume transacted |
| Trend Graph | Graph | Graph | Output |  |

*Output: Analytic Graph of the stock one*

1. **Database Structure Design:**
   1. *User Table -- USER*

|  |  |  |
| --- | --- | --- |
| ***Item*** | ***Data Type*** | ***Description*** |
| username | VARCHAR(12) | User login userID |
| password | VARCHAR(15) | User login password |
| display name | VARCHAR(15) | Display after showing notification and in app |
| email | VARCHAR(30) | Use for finding password/ change password && receive confirmation code for verify purpose |
| birthdate | DATE | Use for finding password/ change password |
| Member level | VARCHAR(5) | Mark level of memberships (with different privilege in different identity) |
| Code | VARCHAR(15) | Send from email after finish sign up, use for verifying |
| Secure Question | TEXT | Use for finding back password |
| Secure Answer | TEXT | Use for finding back password |

* 1. *Stock Transaction Table -- STOCKTRANS*

|  |  |  |
| --- | --- | --- |
| ***Item*** | ***Data Type*** | ***Description*** |
| code | VARCHAR(8) | Code |
| date | VARCHAR(10) yyyy/MM/dd | Transaction Time |
| codeOpen | DECIMIAL(12,2) | Price at Open Market |
| codeClose | DECIMIAL(12,2) | Price at Close Market |
| codeVolume | INTEGER | Volume transacted |
| Code | VARCHAR(15) | Send from email after finish sign up, use for verifying |
| Create Timestamp | DATE | Mark the time that execute the function and store in MYSQL |

1. **Validation**

SELECT

COUNT (\*)

FROM

USER

WHERE

username = Input ‘username’ AND

password = Input ‘password’ ;

***4.1 Sign Up Page***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Item*** | ***Data Type*** | ***Type*** | ***Description*** | ***Error Message*** |
| username | VARCHAR(12) | Field | If field is empty | Empty input (Focus on username field) |
| If record = 1 | Username already exists (Focus on username field) |
| password | VARCHAR(15) | Field | If field is empty | Empty input (Focus on password field) |
| display name | VARCHAR(15) | Field | If field is empty | Empty input (Focus on display name field) |
| If record = 1 | Display name already exists (Focus on display name field) |
| email | VARCHAR(30) | Field | If field is empty | Empty input (Focus on display name field) |
| If record = 1 | Email already exists (Focus on email field) |
| birthdate | DATE | DATE | If field is empty | Empty input (Focus on birthdate field) |
| Secure Answer | TEXT | Field | If field is empty | Empty input (Focus on Secure Answer field) |

*Press [Submit] to start validation*

SELECT

COUNT (\*)

FROM

USER

WHERE

username = Input ‘username’ AND

password = Input ‘password’ ;

***4.2 Sign-In Page***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Item*** | ***Data Type*** | ***Type*** | ***Description*** | ***Error Message*** |
| username | VARCHAR(12) | Field | If input empty file name | Empty Input  (Focus on username Field) |
| If record in USER table = 0 | Username does not exist  (Focus on username Field) |
| password | VARCHAR(15) | Field | If input empty file name | Empty Input  (Focus on password Field) |
| If record in USER table = 0 | Password does not exist (Focus on password Field) |

***4.3 Key Screen Page***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Item*** | ***Data Type*** | ***Type*** | ***Description*** | ***Error Message*** |
| Upload | File | Upload Button | If input empty file name | Empty Input  (Focus on Upload Field) |
| If selected file not in .TXT format | Invalid File  (Focus on Upload Field) |
| If content selected file is empty | File has no record (Focus on Upload Field) |

*Press [Execute] to start validation*