Project Report

Build ERP:

Charge

back calculations

Term – 3rd

Course – BDM 3023: Project Management for Analytics

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# Project Overview

## Project Summary

The purpose of the software requirements document is to systematically capture requirements for the project and the system “Charge Back Calculation” to be developed. It also serves as the input for the project scoping.

* The scope of this document is limited to addressing the requirements from a user, quality, and non-functional perspective. It is recommended that design aspects are not added in this document
* Intended Audience – Batch mates, Professor, Teacher Assistant

### Project Goals, Business Outcomes and Objectives

CBC is a system used for determining portfolio transaction costs driven by client cash flows, and to charge those costs back to the appropriate clients. Charge back is calculated at the time of buying or selling a stock for a client or for a fund (fund is a group of clients, they can be from different countries) irrespective of profit or loss.

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| No. | Goals | Objectives | Outcomes |
|  | User Registration | Design UI to register user credentials into the system | User Registration –   * Individual * Fund Users * Admin |
|  | Individual Clients – Buy or Sell Stocks | Perform Calculations depending upon the invested funds | Display stock information and quantity, with base currency and USD   * Buy – Invested Required and basic prediction on user demand * Sell – Profit or Loss Details |
|  | Fund Users – Buy or Sell Stocks | Perform Calculations with funds invested by each individual in a group | * Display stock information and quantity, with base currency and USD * Display Group Details including group member and amount invested by each member * Buy - Invested Required and basic prediction on group selection * Sell – Profit or loss shared among participants |
|  | New Participant Clients in Fund | Adding a new user to existing group | * Group Alert to all participants and details of invested by new user * New user – Display details of the group and estimated fund required |
|  | Display Stocks of a User or Group | User or Group History with present investment | Display History as an individual or group |

### Project Scope

To develop an independent application Charge Back Calculation, to automate the process of determining portfolio transaction costs driven by client cash flows, and to charge those costs back to the appropriate clients.

Scope Definition

The scope of the system is explained through its modules as follows -

* Client Registration – to register the details of individual Client and Fund users of a bank into the system.
* Charge Back for Individual Client – to enable the Admin to calculate the charge back for a selected user at the time of buying/selling a stock for the user.
* Charge Back for Fund Users - to enable the Admin to calculate the charge back for a selected Fund group at the time of buying/selling a stock for the Fund group.
* New Participant Clients in Fund - the enable the Admin to calculate the charge back for a new participant client joining an existing Fund user group for buying/selling of stocks.
* Displaying Stocks of a User and a Fund – to enable the Clients to view their list of stocks, balance amount and Charge back at the time of buying and selling a stock.

### Boundaries

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| Activities In Scope | | Activities Out of Scope |
| 1. Client Documents for project agreement – SRD, BRD, Technical Support, Application knowledge repository | 1. System can’t perform reverse transactions or revert the changes, once committed by the user or group |
| 1. Modules – User login, Buy or Sell Stock for individual or fund users, Display stock information, Adding new member to exiting group | 1. Exit from a group – User wouldn’t be able to delete their details from the group. User could only put $0.0 to express no participation |
| 1. The currency conversion would be calculated depending on the current range of USD | 1. Fund Users – Users wouldn’t be communicating with each other or request other user’s transactions or amount invested/earned |
| 1. Application training session and application technical support for a month, prior to final billing | 1. Admin could only support technical issues |
|  | 1. Third party or client commission and Tax information would be displayed to the users, in percent. No complete calculation would be explained on screen |

## Milestones

The application milestones are required to mark the performance and coordinate among the team to achieve project objectives and goals, within deadlines.

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| Project Milestone | Description | Expected Time |
| 1. Design User Interfaces | Develop and design UI front end screens | 3 weeks |
| 1. Implement Code logics and calculations | Develop and design Business Layer (logic and calculations) and Data Layer (store data) for the application | 14 weeks |
| 1. System Integration Testing | Publish the application in DEV environment and test the application functionality and fix the encountered issues | 2 weeks |
| 1. User Testing | Deploy the application in PILOT environment and client would test the application functionality with live users | 4 weeks |
| 1. GO-Live | Publish the application in PROD environment and handover the application knowledge repository and training documents to the client, including LIVE training sessions | 4 weeks |
| 1. Application Support and Maintenance | Serve 1-Month application warranty that includes resolving any technical issues or errors faced by the users | 4 weeks |

## Deliverables

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| Project Deliverable 1: Home Module | |
| Stakeholder | Client, Admin |
| Description | Application and Client Information – Client Product Details, Application Understanding, User Sign Up or Log-In Redirection   * Client Representative is admin * For Individual User role will be INDL (Individual) and for Fund User role would be Fund. * Fund Users are a group of clients (can be from different countries) who combine as a unit to buy or sell a stock. |
| Acceptance Criteria | Display Client Information – Company Logo and work description, Contact details, Application basic Information, Client Sponsors, Client Products available |
| Duration | 2 weeks |

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| Project Deliverable 2: Buy a stock | |
| Stakeholder | Individual or Fund User |
| Description | After Admin Logs in the needs to be displayed with the list of Individual Clients and Fund Groups who are authorized for buying a stock from share market.   * For Individual users - the list should display the Transaction Id, User id, User Name, Amount left with user (in dollars) and number of current stocks bought. * For Fund Users - the list should display the Fund id, Fund Name. * Amount Displayed – Client’s country currency and USD * Based on Clients Balance Amount and Fund User Group (if applicable), Admin decides which stock to be displayed and quantity of that stock. * Based on these parameters a charge back will be calculated for the client and the calculated amount needs to be reduced from Balance Amount (in $) and this must be converted back to the amount in Client’s currency. |
| Acceptance Criteria | Display a success message after the Charge back is calculated, with explanation of amount deduction.  If the customer’s search criteria do not match with the details stored in the system a message will be displayed to the user “Search Found No Relevant Results”. |
| Duration | 4 weeks |

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| Project Deliverable 3: Sell a stock | |
| Stakeholder | Individual or Fund User |
| Description | After Admin Logs in the needs to be displayed with the list of Individual Clients and Fund Groups who are authorized for buying a stock from share market.   * For Individual users - the list should display the Transaction Id, User id, User Name, Amount left with user (in dollars) and number of current stocks bought. * For Fund Users - the list should display the Fund id, Fund Name. * Amount Displayed – Client’s country currency and USD * Based on number of stocks selected by the user, and Fund User Group (if applicable), and stock recent & previous price, a charge back will be calculated for the client and the calculated amount needs to be reduced from Balance Amount (in $) and this must be converted back to the amount in Client’s currency.   Charge Back = Commission + Bank Fees + Tax.  Commission will be equal to certain percentage of profit and if sale was for a loss then there would be no commission.  Bank Fees will be 0.5% of the product  Tax will be 1% of the product |
| Acceptance Criteria | Display a success message after the Charge back is calculated, with explanation of Profit or Loss earned  If the customer’s search criteria do not match with the details stored in the system a message will be displayed to the user “Search Found No Relevant Results”.  At least one Fund user group should be registered with the system and should have bought a stock so that it could be sold. |
| Duration | 4 weeks |

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| Project Deliverable 4: Adding new participant in Fund Users | |
| Stakeholder | New User |
| Description | After Admin buys a stock for a selected Fund User group if a new client wishes to join this Fund with some investment then Admin can use this investment in buying more quantity of the same stock.  A charge back should be calculated for each individual client present in the Fund group along with the new participant client for the new stocks bought by the Admin. |
| Acceptance Criteria | Display a success message after the Charge back is calculated, with explanation of amount deduction.  If the customer’s search criteria do not match with the details stored in the system a message will be displayed to the user “Search Found No Relevant Results”.  Admin triggers the functionality when he buys a stock for the selected fund user group. After buying a stock if a new client joins the Fund group with some initial investment using which the Admin buys few more stocks. In this scenario, again a charge back needs to be calculated and this should be shared in the required proportion since the new participant client has newly joined the Fund group. |
| Duration | 4 weeks |

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| Project Deliverable 5: Display Stocks of a User | |
| Stakeholder | User – Individual, Fund, New |
| Description | After a client logs in, the application displays the list of stocks for the user and the respective charge back charged on these stocks during buying a stock and balance amount left.   * Amount Displayed – Client’s country currency and USD * All the displayed details should be non-editable. |
| Acceptance Criteria | Details of user account |
| Duration | 2 weeks |

## Project Cost Estimate and Source of Funding

### Project Cost Estimate

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| --- | --- | --- |
| **Project Phase or Deliverable** | **Estimated Cost by Fiscal Year** | |
| **Cost Category** | **Units/Hr** | **Cost/Units/Hr** |
| [Phase 1/Deliverable] |  |  |
| Salary | 80 | 72000 |
| Professional Services | 50 | 45000 |
| Capital | 50 | 45000 |
| O&M | 50 | 45000 |
| Ongoing cost | 50 | 45000 |
| Other | 100 | 90000 |
| **Sub-Totals** | 380 | 342000 |
| [Phase 2/Deliverable] |  |  |
| Salary | 80 | 2400 |
| Professional Services | 50 | 1500 |
| Capital | 50 | 1500 |
| O&M | 50 | 1500 |
| Ongoing cost | 50 | 1500 |
| Other | 100 | 3000 |
| **Sub-Totals** | 380 | 11400 |
| **TOTAL** | **353400** | |

## Project Risks, Assumptions, and Constraints

### Risks

If there is any failure in chargeback calculation process, the system should be able to handle such a financial risk.

### Assumptions

The Admin should have valid credentials to login to the application and all the stocks possessed by the Clients along with their account balance should be present in the system.

### Constraints

Application should have single login feature. Login functionality should be the welcome feature for the application.

Only administrator can access the application.

None of the application features can be accessed without login.

### Dependencies

If there is any similar chargeback calculation process required for other applications of the same client, this system should be able to accommodate such a reusability dependency.

# Project Organization

## Project Governance

The application design and deployment decisions would be discussed among the team and client, to achieve best of client’s expectation. This provides a foundation for the organized and consistent planning and execution of application.

Software Requirement Document

Project Steering Team

Client Verification & Satisfaction

Project Team

Maintenance & Support

Publish

Testing

Development

The Steering Team articulates a vision for the product or service, acquires and quantifies high-level customer requirements, develops and maintains the business case, and manages customer expectations. Its role is to ensure that business expectations are clearly articulated and understood by all stakeholders and the other project governance teams and that the functional specification responds to business priorities

The Project Management Team, hereafter referred to as the Project Team, drives the critical decisions necessary to release the right product, according to the Steering Team’s direction, at the right time and within the project’s established resource constraints.

## Roles and Responsibilities

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| Project Role | Responsibilities | Assigned to |
| Team Leader | Validate user requirement, module classification, user satisfaction | Ganga |
| Developers & Testers | Develop and design the application as per client’s requirements. Test and validate application functionality | Ganga, Rizwan, Arpita |
| Application Maintenance & Support | Application warranty – technical support and training sessions | Ganga, Rizwan, Arpita |

## Project Facilities and Resources

Charge Back Calculation application will be operated from the client server with parallel processor support. When a user connects to the Web Server, the Web Server will interact with the Database after processing the business logic to transfer data to and from a database.

* Application Framework (Python) to program the application functionality and respective platform
* Data Storage and Processing IDEs

# Project References

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Document Title | Version# | Date | Author & Organization | Location |
| SRD | cbc.srd.2803 | 03/28/19 | CBC team | Y:\CBC\SRD |
| Application Training | cbc.app.2803 | 03/28/19 | CBC team | Y:\CBC\App\_train |
| Application Bug Fix | cbc.fix.2803 | 03/28/19 | CBC team | Y:\CBC\Bug\_Fix |
| Application Code & logic | cbc.fuc.2803 | 03/28/19 | CBC team | Y:\CBC\App\_Func |
| Dev, Pilot & Prod Validation | cbc.verify.2803 | 03/28/19 | CBC team | Y:\CBC\App\_Verify |
| Client Acceptance | cbc.val.2803 | 03/28/19 | CBC team | Y:\CBC\User\_Val |

# Glossary and Acronyms

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| Term | Definition |
| Fund User | Fund Group is a group of Clients (can be from different Countries who join together and invest their money in the bank for stock trading) |

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| --- | --- |
| Acronym | Name in Full |
| CBC | Charge Back Calculations |
| USD | US Dollars |
| DEV | Development environment |
| PILOT | Testing application environment |
| PROD | Application production environment |