 **Sonam D Bhotika**

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***Sr. Business Systems Analyst***

# **Summary**

* Over 8 years of experience in **Business Systems Analysis**, System Analysis and Design, **Requirements gathering**, Quality Assurance and **Testing** with hands-on experience in**Finance**,**InvestmentBanking**, **IT** and **Capital** Markets.
* Practical understanding of software development life cycle (**SDLC**) using**waterfallmodel** and **agile scrum** methodologies.
* Lateral Skills include defining **Project Scope, Business Process Analysis, Business Requirement Gathering, Application Configuration, Development**and **Testing**.
* Proficient in business and technical writing of**Business Requirementdocument** (BRD),**Use-case Specifications**,**Functional Requirement Specification** (FRD), **System Requirement Specification**and**User Manuals** across the deliverables of a project.
* Experienced in efficiently coordinating and moderating**requirements gathering sessions**, **JAD sessions, RAD workshops** and **interviews** with Subject Matter Experts and Stakeholders to document required business process resolutions.
* Expertise in eliciting, analyzing, translating and recording **high level** user requirements into **low level** functional, non-functional, quality, usability, user-interface and data requirements.
* High expertise in tracing requirements throughout the development process and verifying adherence to the **RequirementTraceabilityMatrix** (RTM).
* Worked on **Business process models** and **Business process re-engineering** by creating new processes and updating or automating existing processes based on changing organizational needs.
* Experience working as a **Certified Scrum Master**in a high agile environment to **facilitate scrum ceremonies**, resolve impediments faced by team members and **assist Product Owner** with sprint related activities.
* Comprehension of **agile environment** techniques like **Planning poker**, **MOSCOW**, **Burn-downcharts,** managing requirement **churns**, writing **user stories**and **story mapping**.
* Proven success working with QA team and as a Lead forcomposing**Test plans, Test scenarios and Test cases** to ensure in-depth testing of all functionalities and adherence to the **RTM**.
* Extensive involvement with **Data Warehousing**, Dimensional Modeling, **Data Analysis, ETL** and**Data Mapping**. A good understanding of **RelationalDBMS**, **ER diagrams**and proficient in writing queries in **PL/SQL** for effective data analysis.
* Collaboration with data architects to define **Data Dictionary**and system architects to design business functionalities into **N-tier** or **Service Oriented**tightly and loosely coupled **architecture**models across heterogeneous IT environments.
* Comprehensive experience in **Root-cause analysis, Issue Simulation** and **Resolution, Client** and **Server Side Validations, Gap Analysis, Cost-Benefit Analysis**and **Impact analysis**.
* Worked on **Object Oriented** Analysis and Design using Unified Modeling Language**(UML)** with emphasis on **use case**diagram, **state**diagram, **sequence**diagram, **activity**diagram and **data flow diagrams**.
* Skilled in planning and execution of various kinds of **testing** including **User Acceptance Testing, Black-box Testing, Unit Testing, Integration Testing, Functional Testing, Regression Testing** and **Certification Testing**.
* Actively involved in preparation of **test plans**, **test scenarios** and **test cases** while also recording and tracking change requests and bugs in various **Change Management** and **Defect tracking** tools to ensure appropriate **Error handling**.
* Understanding of **Web Services** related concepts like **WSDL**, **HTML**, **XML**, **JavaScript, .Net** and **AJAX** and various protocols such as **SOAP** as well as **HTTP**, **TCP, UDP** and **FTP** under the **Internet Protocol Suite**.
* Adept in facilitation of**end user training,**preparation of**planning documentation** for implementation and deployment activities along with **Quick Start** and **Troubleshooting Guides**.
* Proven **leadership** skills, self-**motivated**, results and details **driven** with acute **organization capability** in fast-paced environments requiring quick workaround times.
* Skilled in **cross-functional team collaboration** across borders to ensure smooth operations for undertaken endeavors.

# **Domain Knowledge**

* Well-versed in **Equities**, Futures, Forwards, Options (**OTC/Derivatives**) for Stocks, Fixed Income, **Commodities**, Currencies, Interest Rate and Credit Default **Swaps**.
* Familiar with **SOX, Basel III** & **Dodd Frank**compliance standards. Exposure to QA principles like **CMM levels** &**Six-Sigma.**
* Strong subject matter expertise in Investment Banking and Global Capital Markets; **Trading**, Order Execution, **Automated** Trading, **Brokerage, Credit Risk** and Portfolio Management.
* Expert Knowledge working with **Orc**Trading Software**,Fidessa, Cameron** FIX-Engine, ODIN Application, Bloomberg Terminal, Reuters Market Data and **FIX** Protocol.

# **SkillSet**

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| **Methodologies** | SDLC, Waterfall, Agile Scrum, Waterfall-Scrum |
| **OperatingSystems** | Linux, UNIX, Win 95/98/2000/XP/Vista, Mac OS |
| **Business Skills** | Change Management, Impact Analysis, GAP Analysis, Cost-Benefit Analysis |
| **Modeling Tools** | UML–MS Visio, Rational Rose; MS Project, Wireframes, Mock-up Screens |
| **Requirements Management** | MS Office, Project JIRA, HP ALM, Rational Requisite Pro & Portfolio Manager, TFS |
| **Reporting Tools** | SSRS, SSIS, SSAS, Spotfire, Cognos, MS Sharepoint, Moogle |
| **Testing Tools** | HP QC, Cameron Catalyst, Bugzilla, IT Help Desk, PR Tracker |
| **Database& ETL Tools** | IBM Informix, MySQL, Informatica, Oracle 10g, ODS, OLAP |
| **Others** | XML Spy, Eclipse IDE, Edit Plus, VPN Client, SVN, MS IIS, Apache Tomcat |
| **Languages** | SQL, PL/SQL, Java, XML, HTML, JavaScript, ASP.Net, C#.Net, Shell Script, JDBC |
| **Proprietary Applications** | Bloomberg, Fidessa, Orc, Cameron FIX, ODIN, NEAT, BOLT, Sophis |
| **Familiarwith** | FIX Protocol, FAST, FIXML Templates, ITRS Geneos, UL-Link, Neutron API, FSA |

# **Experience**

**Lincoln Financial Group Greensboro, NC | Jan 2014 – Jun 2015**

**Role: Sr. Business Systems Analyst**

Implementation of a new in-house optimized automated algorithmic trading engine that supports high frequency and low latency trading for the Brokerage firm. The system enables handling of large trading volume, fast order entry and trade execution, risk management, limiting of human error and provides for a unique and flexible user experience. The platform provides a comprehensive suite of connectivity solutions for trading venues globally, is highly flexible and customizable to trader/investor needs.

**Responsibilities:**

* Took **ownership** of the business case by documenting the **AS-IS process** to justify project-funding allocation.
* Primary **liaison** between stakeholders, business users, quality assurance and development team.
* Worked with **Fixed Income, Brokerage** Trades, Over the Counter Derivatives, and Mutual Funds (internally) for testing purposes and also to understand the flows across the internal regions.
* Analyzed **prior documentation** and **business processes** to gain an understanding of existing system and its underlying dependencies for the new module.
* Conducted interviews and coordinated **joint application development (JAD) sessions** to gather requirements from **traders**, **business users** and **subject matter experts** (SME).
* Responsible for working with retail bank and **Brokerage**field personnel to resolve escalated customer issues and account set up issues.
* Conducted **rapid application development (RAD) sessions** to gain feedback of end users by delivering a working **prototype** with the highest priority functional requirements.
* Developed good knowledge of**Equities**, **Derivatives** (futures and options)and**Synthetic** orders.
* Performed **Gap analysis**, designed new process flow, documented the business process, various business scenarios and activities from the conceptual to procedural level.
* Documented the additional features requested, the old features to be preserved and plans to implement new module in a **Business Requirement document**.
* Captured all aspects of the **Trade life cycle** (front office order management, trade execution, settlement and clearing) through **Use cases** and **Process flow diagrams** to be leveraged for further use case creation.
* Composed a **Functional Specification document** (FSD) detailing the functionality of each of the requirements to be implemented by meeting with the SME and lead developers.
* Involved with design architects to model the User-interface components. Communicated the **Wireframeprototypes** to end users for optimization of navigation or quality and provided relevant feedback.
* Educated developers on various **synthetic order strategies**to help them understand the logic of operations for algorithmic trading of stocks, futures and options within the system.
* Collaborated with DBAs to perform **data mapping**of static data arriving from different sources and real-time data arriving from the exchange and Bloomberg.
* Assisted in designing a **web services** based **Real-Time Data** system to execute **SQLqueries** forextracting data from the database layer and updating the web page using **AJAX** scripts.
* Managed all **change requests** and churns during the project life cycle by raising **CR** tickets in HP-ALM and following them towards closure.
* Coordinated and prioritized outstanding defects and system issues in **Project JIRA**and prepared the **Requirements Traceability Matrix** to track the same.
* Reviewed **test cases** for the use cases and validated the scenarios with business users, SME and product owner during **UAT** phase.
* Worked extensively on updating the **internal glossary system**.

**Responsibilities: Scrum Master**

* Facilitated and oversaw all the scrum ceremonies like the **daily stand-up**, **sprintplanning**, **sprintreview**, **retrospectives** and **backloggrooming**.
* Assisted the **Product owner** in constantly **re-prioritizing** the **Product backlog,** managing requirement churns and planning to improve ROI of team.
* Moderated the Sprint **estimation efforts** with the help of **Planning poker** and **T-shirt sizing**.
* Responsible for **resolvingimpediments** faced by the team, **shielding** team from external disturbances and ensuring implementation of Scrum processes so a **shippable product increment** is delivered every sprint.
* Responsible for updating and tracking the **Sprint Burn-down charts** and **userstory mapping** while utilizing them to calculate **Velocity** of team and increasing public **visibility** of team progress.

**Environment: Agile-Scrum**, Project JIRA, MS Office, MS Visio, PL/SQL, Informatica, Java, EJB, JSP, Hibernate, Spring, Web services, Apache Tomcat, AJAX, Wireframes, XML, XML Spy, Cognos

**TD Bank Elizabeth, NJ | Jan 2013 – Dec 2013**

**Role: Business Systems Analyst (Credit card appraisal)**

TD Bank, N.A is a national banking institution in the United States that offers banking, insurance, Brokerage & investment banking services. The credit appraisal system for credit cards was proving unsatisfactory, as the system did not offer electronic notices to end-customers and all the relevant transactions had to be processed manually.

**Responsibilities:**

* Formulated and documented business requirements to support new product initiatives that support strategic plans and customer initiatives.
* Establishing new solutions to **Brokerage** platform for both Retail and Institutional Clients
* Assisted in developing, maintaining and enhancing the pension risk transfer ALM models.
* Refine and optimize model implementation to enhance **the structured solutions pricing activities.**
* Chaired discussions with Stakeholders regarding implementation of **IAM.**
* **Recommended** tools for IAM to manage the access for important and secured data.
* Used **Google Analytics to** check the number of hits on the website.
* Worked in Simplified Accounts opening project that used E-forms that the **financial** advisors use to open **Brokerage**, Annuity, Insurance and other securities accounts automatically and then submit them electronically.
* Google analytics and data mining useful to **create new customers.**
* Analyzed and managed **Metadata repositories by Tableau and Oracle enterprise.**
* Assisted the **BI, ETL** team to analyze the data of customers having moderate credit.
* Tracking and recording data and requirement collection through HP ALM. Activating email with HP ALM.
* Drafted the project scope document to include the necessary requirements like interfacing with ARU (Audio Response Unit) module for status check and phone notification
* Translated business requirements into functional specifications for communication to technology team & performed **GAP Analysis to identify requirements.**
* Performed system analysis to integrate a 3rd party processor for **EDT (Electronic Data Transfer)** via bank networks. **CRAPS (Credit Appraisal System)** used file outputs to electronically feed to the internal bank systems.
* Discussed with **Line of Business** and gathered requirements regarding their **customer billing**.
* Provided solutions of using **CRM net cracker** for billing and rating to handle customer problem management.
* Researched vendors to provide real-time FICO score, which would enable the CRAPS rules engine to pre process the application.
* Mortgage management skills.
* Chaired sessions with **SME regarding using Workday ERP** for Customer management and financial management.
* Handled financial management problem with **Workday.**
* Provided accurate Mortgage data and leads for organizational process team
* Developed and implemented mortgage programs and processes.
* Helped establish release management process and integration of vendor.
* Manage day to day issues related to vendor management.
* Manage risks associated with vendor implementation impacting internal systems or processes.
* Advocate implementation standards with vendor to increase quality of releases.
* Interacted with the database group to integrate the new CRAPS Oracle database in the corporate data warehouse for **OLAP Reporting via ETL (Extract, Transform & Load).**
* Actively participated in the formal control gate review session to establish requirements baselines and assisted the project manager to update the schedule and scope of the project.
* Assisted in development of training materials for new technology and process improvements.
* Created **test cases for system use-cases** to validate functionality. Performed **risk mitigation** via goal modeling at all stages of the project life cycle.
* Interacted with the **QA developers on resolving the reported bugs.**
* Conducted Walkthroughs and User Acceptance Tests (UAT) and worked closely with the UAT personnel to both ensure that their needs are met.
* **HP ALM installation** and creation of records.
* Support testing and validation models for **pension risk transfer**.

**Environment: Waterfall,**IBMRational Requisite Pro, IBM Rational Rose, IBM Rational Portfolio Manager, MS Office, EDI, Java, JSP, Javascript, PL/SQL, Oracle 10g, ODS, OLAP, ETL, Web services, XML, HTML, TCP/IP, HP ALM

**Ernst & Young Houston, TX | Nov 2011 – Dec 2012**

**Role: Sr. Business Systems Analyst**

Implementation of a pricing system for determining the theoretical forward price of financial derivatives like vanilla American options. The system employs a mathematical programming equilibrium constraints approach such as an Implicit Programming Algorithm (IMPA) and Penalty Interior Point Algorithm (PIPA) to calculate the implied volatilities of underlying assets. The implied volatilities are then used in optimizing a discretized partial differential linear complementarity problem to derive the derivative price.

**Responsibilities:**

* Conducted **Q&A sessions** with **subject matter experts** and **developers** during the pre-analysis phase to understand option pricing models and derivative trading business model.
* Performed extensive **GAPanalysis** to recognize system deficiencies and improve business process models.
* Elicited requirements by conducting **JAD sessions** with key **stakeholders** from business area, implementation team and database team.
* **Decomposed high-level business requirements** into a prioritized list of detailed functional, non-functional, GUI and data requirements.
* Created the **Business Requirements Document,** detailed **Functional Requirement Document** and the **System Requirements Specification**for the system.
* Depicted system interactions with external entities using **Use Case** models. Created business rules, **Process flowcharts**and**Statediagrams** to represent the steps of pricing algorithm.
* Updated the **internal glossary system** to include all derivatives pricing and trading related terminologies.
* Assisted architects in **user interface design** and **createdmock-ups** of the different views of the applications including detailed designing of the volatility surface windows.
* Collaborated with DBAs to perform **data mapping** of data from internal and external sources and executed SQL queries to filter data from the database for analysis.
* Created **validation rules** and provided verbiage to developers for **client-side validation**, **server-side validation** and **data validation.**
* Identified **test scenarios** and **test cases** along with the QA Team and provided users with relevant **test data**.
* Facilitated**live demo** of the product incrementsto various stakeholders and keep track of various project tasks.
* Assisted business users and traders during **User Acceptance Testing** phase to ensure business requirements were met and pricing data and volatility surfaces were functioning soundly.
* Created and maintained the **Requirements Traceability Matrix**, **monitored the UAT** process and maintained a **Defect Log** for improved efficiency in the testing process.
* Performed **Risk Analysis** of various business and technical risks associated with implementation of the system.
* Involved in assessing the **impact** of any requirement **changes** during the implementation phase.
* Provided technical assistance during project planning, scheduling of deliverables and demonstrations.

**Environment: Waterfall**-Scrum, MS Office, Sharepoint, MS Project, MS Visio, HP ALM, JIRA, MySQL, C#.Net, ASP.Net, MS IIS, SSRS, SSIS, SSAS, TFS, Mock-up Screens

**Johannesburg Stock Exchange Mumbai, India | Dec 2010 – Sep 2011**

**Role: Business Analyst**

**Project: JSE to CME FIX based Market Link**

JSE uses the Neutron messaging protocol for their market link. Clients can use the Neutron API to implement an interface with the JSE market link. JSE needed to implement a FIX adaptor for their market link to make it more generic and also compatible with the CME (Chicago Mercantile Exchange).

**Responsibilities**:

* Coordinated with the business users and **conductedconference calls** to capture the adaptor requirements and gain an understanding of the exchange/business rules & constraints.
* Determined the scope of the project, analyzed and prioritized the requirements and developed an effective **Business Requirement document**.
* Studied the purpose, behavior and components of all **JSE Neutronprotocol**messages and similar **FIX protocol** messages for order insert/modify/delete, trade management, security download and market data download for equities, derivatives and fixed income securities.
* Conducted **GAP analysis** to determine the **feasibility** of mapping both protocols, first by message type, then by field type and finally by field information/value.
* Identified gaps between the two messaging protocols and came up with a potential workaround.
* Performed manual **data mapping** between Neutron and FIX messages and fields. Stored the results in an Excel sheet to be used as a reference later.
* Formulated a detailed **FIX Specification mapping document** for the Neutron protocol detailing the mapping between messages and fields as well as field values and datatypes.
* Wrote a **Core Functionality document** detailing the **flow of messages** via the FIX Layer (both TCP and UDP links) including the fields and information required in the **request & response** messages along with appropriate acknowledgements and error handling for failure scenarios.
* Prepared FIX Adapted for Streaming (**FAST**) templates needed for the implementation of a UDP link required for exchanging security and marketing data download messages in **batch processing**.
* Compiled a **test script**, prioritizing the scenarios for certification testing and specified the expected behavior of message flow on the FIX based market link.
* Composed **test scenarios** and **test cases** for each message that could be sent over the link, included successful as well and rejection scenarios, with examples for input data.
* Provided **data validation rules** for the various FIX fields including data type, range and business constraints.

**Environment: Waterfall,** MS Word, Excel, Power point, XML, Edit Plus, MS Visio, FIX/FAST Protocol, TCP/IP, UDP. Cameron FIX Engine, Catalyst

# **Orc Software AB Mumbai, India | Oct 2009 – Nov 2010**

**Role: Lead Tester**

**Project: PIT Trader**

The E2E Trader is an application used for trading in the PIT on CBOE. The software helps trader to view volatilities, theoretical prices and portfolio positions for various strikes and expiries of an underlying. The trader can create various strategies (like straddle, strangle, etc.) on his E2E Trader and use them to insert orders and trades via the Orc software market link. Once a trade is confirmed to the trader verbally on the PIT, he can use the application to insert the same in Orc to maintain a record of the trades done during the day.

**Responsibilities:**

* **Collaborated** with the BA, architects and developers to gain an understanding of the environment, the system as whole and different functionalities implemented.
* Perused all documentation pertaining to the application, **researched** the various strategies implemented and **referencedtheRTM** while planning the testing phase.
* Designed a detailed **Test plan** for the entire product and all its functionalities detailing the testing strategy to be used, the required test environment, schedule and **controlprocedures**.
* **Coordinated** with system and database **administrators** to ensure sound functioning of test environment, correct setup of databases and resource availability.
* Prepared a detailed **test script** with test **scenarios** and test **cases** for each feature and functionality in an MS Excel document, attaching a case number for specific requirement to each scenario.
* **Delegated** to team members and conducted **weeklystatusmeetings** to ensure that control procedures and test schedules were being followed effectively.
* Performed **manual testing** of application and continuous **regression** testing of new iterations to ensure correct process flow and requirements traceability.
* Responsible for **issue analysis and simulation** using the log files generated on the server and error messages on the client to ensure proper **error handling** within the application.
* Reported and **followed-up** on bugs and errors with the development team. Performed Regression testing whenever a bug resolution or enhancement was received.
* Participated in the **scrum process** and all its meetings, providing status reports on progress of testing and feedback to development team on open issues.

**Environment: Waterfall-Scrum,** MS Office, JIRA, VPN Client, XML, Edit Plus, Linux, IBM Informix, Orc Trader, Java, SVN, JDBC, TCP/IP, Eclipse IDE, Bugzilla, RCP, Swing

**Macquarie Capital Securities Mumbai, India | Apr 2008 – Sep 2009**

**Role: First Line Support Specialist**

**Project: Managed Services – IT Team**

First line support for Fidessa and ODIN Trading applications to traders and sales traders during market hours for trading on the NSE and BSE Cash and F&O Segments. A wide variety of applications needed to be supported including market gateways, exchange small order routing software’s, third party vendor applications, market links, back end systems, algorithmic trading, DMA links, defect tracking tools, production support dashboards, change request management and internal chat channels.

**Responsibilities:**

* Created **SharePoint pages** containing a detailed description of teams’ policies, responsibilities, change control procedures and reporting/approval hierarchy.
* Created **Mooglepages** depicting the teams’ daily **processflow**, responsibilities and steps to be followed to resolve commonly known issues.
* Performed **CRreporting**, **prioritization** and **tracking** of all team activities such as version/patch upgrades, new releases and rollbacks using the PR Tracker tool.
* Raised **Issue tickets** in Help Desk for problems occurring in the production environment and followed-up with second and third level support regarding their **resolution**.
* Investigated and followed-up on **change requests** with **third party vendors**.
* **CoordinatedwithNSE**&**BSE**help desk to resolve issues related to market disconnection, static data, status of order and trades and market prices during market hours.
* Prepared ODIN **migration plans**, set schedules, gained approvals and coordinated with cross-functional teams onshore and offshore for their implementation.
* Performed **Regression testing** in test environment and **GAP Analysis** of dependent functionalities for any new version upgrades to applications before UAT.
* **Certification**&**UAT** testing of upgrades & patches during **marketrehearsals** conducted by exchanges with traders.
* Daily **applicationsupport**, **training** to traders and **setup** of new trader ID’s & desks in ODIN &Fidessa.

**Environment:** MS Office, MS SharePoint, Moogle, Windows Service Queues, Bloomberg Terminal, Fidessa Trader and DBA, ODIN Server and Trader, TAP, IML, NEAT, BOLT, IT Help Desk

**European Financial Group Mumbai, India | Jun 2007 – Mar 2008**

**Role: Java Developer**

**Project: ORC Trader – SOPHIS Trader Interface**

Implementation of a real-time interface between Orc and Sophis servers to process trades received from Orc and sends them to Sophis to get booked. Similarly, trades in Sophis are entered in Orc via this Interface. The module is also used to sync instrument details between Orc and Sophis and create Orc contracts in Sophis if they do not exist.

**Responsibilities:**

* Coordinated with the BA and **perused** the **FunctionalSpecification** document to understand the detailed functionality to be implemented.
* Created **XML mapping files** containing Instrument, Order and Trade message data in strictly structured hierarchy for messages travelling from and to both Orc Server and Sophis Server.
* **Developed** the core **instrumentidentification** and **instrumentcreation** middle tier layers of the interface.
* **Developed** the **connectivitycomponents** using XML files, JMS and CORBA.
* Performed **white box and unit testing** of the developed modules to ensure sound coding within defined framework and adherence to the business requirements.
* Involved in **integration of system** using SVN with other developers, architect and BA including integration testing.
* Responsible for **supportingUAT** and **bugresolution** post-implementation.

**Environment: Waterfall,** MS Office, XML, Edit Plus 2, Eclipse 3.4, Java 2.0, JDBC, SVN, Bugzilla

# **Education:**

## **BE Computer Engineering**, University of Mumbai, India

# **Certifications:** Scrum Master Accredited Certification, Bloomberg Terminal, Basic Derivatives Trading (BSE, India)