



# **INTERNSHIP REPORT**

**TRUPTI SHETMANDREKAR**

**1954**

**INBETWEEN SOFTWARE DEVELOPMENT PVT. LTD.**

Goa University

# **REPORT OF INTERNSHIP DONE AT INBETWEEN SOFTWARE DEVELOPMENT PVT LTD**

Submitted by:

Trupti Shetmandrekar

(1954)

UNDER THE GUIDANCE OF

Mr. Clesiton Colaco

Senior Test Manager, **INBetween Software Development Pvt Ltd**



InBetween Software Development Pvt. Ltd.

InBetween Software Development Pvt. Ltd.  
www.inbetween.com  
Direct Contact :  
niveditha.praveen@inbetween.com  
Mob: +91 - 8600043323

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**To Whomsoever It May Concern**

This is to certify that Ms Trupti Shetmandrekar is undergoing industrial training as an intern in Quality at InBetween Software Development Private Limited since January 10, 2022 to expected date of completion July 8, 2022 under the guidance of Mr. Clesiton Colaco, Sr. Test Manager.

The details of her internship with InBetween Software Development Private Limited is given below:

Project Title: **"InBetween - Dynamic Publishing"**

Tasks handled -1) Software Testing:

- Different Types of Testing
- Understanding Requirements
- Test Case Preparation
- Test Case Execution
- New Features, Bug Testing
- Bug Reporting
- Product Documents/User Manual Updation

**For InBetween Software Development Pvt Ltd**

**Niveditha Praveen**  
Director



**Director Software Development**  
Niveditha Praveen  
+91-8600043323  
niveditha.praveen@inbetween.com

**Managing Director**  
Alexander Dressler  
alexander.dressler@inbetween.de

**Office Address :**  
311, Shiv Towers,  
EDC Patto Plaza, Panjim  
Goa 403001, India

# GOA UNIVERSITY



GOA BUSINESS SCHOOL

## CERTIFICATE OF EVALUATION

This is to certify that **Mrs. Trupti Shetmandrekar** has been evaluated for the project work titled “**INBetween - Dynamic Publishing**” undertaken at **INBetween Software Development Pvt Ltd**, Goa in partial fulfilment for the award of the degree in Master of Computer Application.

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Examiner 1

\_\_\_\_\_

Examiner 2

Place: Goa University

\_\_\_\_\_

Date:

Dean, Goa Business School

## Acknowledgement

The internship opportunity I had at **INBetween Software Development Pvt Ltd** was great, the company helped me in learning and self-development and also to be a responsible person. Therefore, I consider myself to be lucky and would like to show my deepest gratitude and appreciation to all those who were with me in this journey and helped me develop my personal and professional skills

**My sincere gratitude to** Mrs. Niveditha Praveen (CEO, INBetween) for giving me the opportunity to intern at **INBetween Software and Senior Test Manager, Mr. Clesiton Colaco** for being an excellent mentor giving me constant motivation, advice and guidance. I would like to thank Mr. Akash Deshmukh for guiding me.

I would like to thank Mrs. Rebecca (HR, INBetween) for always helping me out whenever I was in dire need.

I would like to thank to all my team members and team lead, who despite being busy with their duties, took time out to hear, guide and clear my doubts. Each of them helped me to go through a challenging environment which helped me to learn and grow.

I would like extend my gratitude to Ms. Yma Pinto (Program Director, MCA, Goa Business School), Mr. Ramdas Karmali (Prof and TPO, DCST, Goa University), and Mr. Jarret Fernandes (Assistant Prof, MCA, Goa Business School, Goa University) and all the teaching and non-teaching staff of DCST for their constant encouragement and support.

-- Trupti Shetmandrekar

## Table of Contents

<b>Sr.no</b>	<b>Index</b>	<b>PgNo</b>
1	Introduction	7
2	Company Profile	8
3	InBetween Projects	9
4	Responsibilities as Quality Analyst	14
5	Manual Testing	15
6	Different types of Manual testing	17
7	Testing Tool used: Jira	19
8	Timelines	21
9	Learnings	31

## Introduction

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This report is a short description of my full-time on-site internship at **INBetween Software Development**, Panjim. I joined as an Intern in January 2022. This report contains necessary information about the organization, the tasks I worked on and completed in this internship period.

This report highlights my learning, experience and my contributions to the organization as an Intern. This will describe the knowledge that I gained by successfully completing the tasks that were assigned to me. I will be talking about my contributions tasks that were assigned to me.

Finally, I'll be winding up with my personal experience and how it helped me grow in my personal and professional areas.

## **Company Profile**

InBetween Deutschland GmbH is a global leader in Database Publishing solutions. 30 years InBetween has been synonymous with high performance dynamic and database publishing. The standard software InBetween can create catalogues, brochures, datasheets, price lists, and many more types of media in a rule-based, automated, and format-independent manner and in a variety of outputs formats. With InBetween, your publications for marketing, sales as well as your technical documentation can be created more easily, faster, and more efficient throughout the entire company. You are not only saving a lot of time and money but also nerves.

Our development team at InBetween Software Development Pvt Ltd in Goa makes sure your requirements and our own ideas regarding new functions will be put into action. Through our software maintenance customers regularly receive enhanced and improved software versions. Because the further development of a software is just as important as what you buy today.

More than 200 companies worldwide across over 100 industries already benefit by using the database-supported cross-media publishing provided by the market leader, InBetween. Our knowledge of the special requirements in the various branches and continuous further development of InBetween made this success possible. Today, InBetween is a mature technological standard solution for all aspects of modern database and Dynamic-Publishing.

## **Projects:**

### **InBetween Server**

The InBetween Server is preconfigured and allow starting the InBetween server directly after installing it. In the default configuration, InBetween server is started on port 8000. The InBetween server can be started by running 'Server-Launcher.exe'.

### **Project Editor**

- Project Editor is primarily used by InBetween project developers who use it to create database publishing projects
- The Project Editor is always used when it comes to creating templates, master pages or master publications. Also formatting options, styles, modifications, etc. are set up in the Project Editor.
- In this client all necessary functions are made available for the user to create InBetween project
- The user interface of the project editor is completely graphical. The user is not required to execute commands via a command line to run nor any writing of code is required. All actions can be performed with the mouse and gives visual feedback

### **IB Admin**

InBetween Server Administrator is a tool to configure InBetween Server. Users and roles, paths (e.g. for images), projects and renderers are managed by IB Admin.

Only users with administrator rights are allowed to use the application. Other users will not be able to login to IBAdmin

### **DTP Client / QuarkXpress/ Illustrator Applications**

- A DTP-Client like InDesign, QuarkXPress or Illustartor is used to create highly creative and high-quality documents like advertisements, creative catalogues, posters, presentations etc.
- InBetween DTP Client functionality can be integrated and used in InDesign and QuarkXpress Applications

- The DTP Client is used when the graphics department of a company. It provides a drag and drop workflow, where you can put stack elements and different templates into an existing document.
- The DTP Client has many general functions that are in common with the Project Editor.
- InBetween Plugins for Adobe Indesign and QuarkXPress are required for the generation / update / manual editing of INDD Quark documentation, also for using DTP Client Feature from these clients

## **IB PUBLISHER**

- IB Publisher is a Web client wherein user can perform publication generation, Dynamic publication generation and update a document
- In IB Publisher, user cannot do any changes in the publication, pages nor any project level changes
- IB Publisher can be customized to display additional options, change the look and feel, configure certain projects and output formats, etc.

## **IB PUBLICATION WIZARD**

- IB Publication Wizard is a HTML 5 Web client developed using AngularJS
- In this client user can perform Publication generation, modifications to the publication and pages, Uploading/Deleting of Static pages

## **Marketing Board**

This page displays the Statistics of Product State. Statistics will be displayed only for the InBetween projects that have product states configured

## **Job Automation**

- Job automation provides a better user interface for the user to easily create any number of jobs and schedule them on single click.
- You can easily create, edit, duplicate, delete, and save the jobs by exporting the existing jobs on your system and import the same jobs later when required.

## **SOAP API**

- The InBetween Web Service Interface is provided by the web application called IB-WSBridge which is running on Apache Tomcat Server. SOAP 1.0 is used as protocol to call the InBetween methods via the web.
- InBetween is delivered with a SOAP API. By using this interface, it's possible to remote control InBetween through web services, which allows a deeper integration of InBetween in existing systems.
- Execution of jobs will start only after successful connection to IB Server
- All types of generations(Dynamic Publication, Publication, Template) can be scheduled through SOAP Client

## **URL Generator**

- The IB URL Generator client provides document generation via a simple URL interface or by hitting a pre-formed url in the browser. This client provides the simplest option to integrate InBetween into an existing infrastructure as compared to an integration of their InBetween clients
- All Generations/Update performed through URL Generator are serverside
- A company with lots of changing products and/or prices needs flexible publishing. The URL Generator offers that flexibility without the need to understand publishing or how InBetween works. Once set up, a click is enough to generate a file with updated data, for example from a database.

## Batch generation

- The InBetween Batch client is a Non-UI client. There is no UI interface to select InBetween project and other generation parameters for triggering generations or updating a document
- Batch client is mostly used when a user has to generate multiple documents(100's or more) or to update multiple documents(\*.INDD files)
- Generations can be scheduled as jobs in a 'scheduler.xml', that is located in InBetween installation's InBetweenServer folder
- To update multiple documents(\*.INDD files), update jobs can be scheduled in 'scheduler-update.xml', that is also located in InBetween installation's InBetweenServer folder

## Hotfolder

- The InBetween Hot Folder client is a Non-UI client.
- The application automatically performs different actions like generation of specific documents, updating existing documents
- Generations and Update of documents is triggered whenever an Data XML file is dropped into a defined folder
- Hot Folder client is mostly used when a user has to generate multiple documents(100's or more) or to update multiple documents(\*.INDD files)
- For Hot Folder client to connect to IB Server, 'Host', 'Port', 'Login' and 'Password' are required. These are required in the scheduler.xml and scheduler-update.xml

## IB REST SERVICES CLIENT

- The InBetween REST Services are REST (**Representational State Transfer**) architecture based web services
- IB REST Services can be consumed by any external Third Party clients(UI/Non-UI) written in any programming language. These clients can make calls to IB REST Service
- To test REST Service, we have a Windows Test Client Application developed by InBetween

- REST Client can be used to generate multiple documents(100's or even more)

## **IB Print Assistant**

Print Assistant is a project where client can easily generate products into PDF along with the log languages, the same was the requirement of a customer.

# Responsibilities as Quality Analyst

Quality assurance testing is a process that ensures an organisation delivers the best products or services possible. The goal is to provide the highest quality to the customers and to create a product or service that is compatible with requirements and expectations.

## Contribution as a Quality Analyst

- Check logs
- Test Bugs
- Check if existing features is functional
- Bug Reporting
- Test new/ Improvement features
- Check error in console if any
- Updating Documentation

## Manual Testing:



Manual Testing is a process of finding out the defects, bugs in a software program. A tester performs the end-user role and verifies if all the features are working properly or not. Tester manually executes the test cases.

Manual Testing is one of the most fundamental testing processes as it can find both visible and hidden defects of the software.

Manual testing is mandatory for every newly developed software before automated testing. This testing requires great efforts and time, but it gives the surety of bug-free software. Manual Testing requires knowledge of manual testing techniques

The developer fixed the defects and handed it to the tester for retesting.

Manual testing is essential because one of the software testing fundamentals is "100% automation is not possible."

## Why we need manual testing?

Now a days software professionals prefer automated testing over Manual Testing, but there are still multiple reasons which justify the need for manual testing.

Few of them are:

- **Human Perspective:** The basic usability and look & feel of the application can only be gazed and evaluated by Humans. As the software is developed for humans only, so they only can-do better justice of validation from a user experience perspective.
- **Handles complex scenarios:** Manual testing handles complex test cases, while automated testing handles simpler, more repetitive tests. Test scenarios that are only being validated once in a while. Complex test scenarios that are not efficient and sometimes not feasible to automate
- **Cost of automation:** Sometimes, due to the timelines or size of the project, the extended efforts for the automation are not justifiable, and we always prefer a quick manual validation over the automation testing.
- **Un-automatable scenarios:** There can be multiple scenarios that are either not worth automating and doesn't give clear confidence of the user behavior when just testing using automation.

Considering all these points, **manual testing has still maintained its place in the validation phase of the fast-paced software development cycle.** Manual testing is slow and tedious. **But its strength is that it better handles complex scenarios.**

## When to do manual testing?

- **Adhoc testing:** Adhoc testing, as the name suggests, is unplanned testing. It doesn't have any specific approach defined neither it has any documentation associated with it. Adhoc testing is entirely informal, and the only important factor is the knowledge and insight of the tester.
- **Usability testing:** We perform usability testing to assess how convenient, efficient, and user-friendly the product has turned out to be for the end-users. For this assessment, we require the highest manual intervention and cannot rely on tools to assess it for us. So to evaluate the product from the end-user point of view, we opt for manual testing.
- **Exploratory testing:** When the documentation of the test is poor, and we have a short time for execution, in such cases, this exploratory testing requires analytical skills and creativity of the tester and also the tester's product knowledge. When we have to perform exploratory testing, we go for manual verification as we cannot use tools with little knowledge and documentation.

## **Different Types of Testing Used**

### **Acceptance Testing**

Acceptance testing ensures that the end-user (customers) can achieve the goals set in the business requirements, which determines whether the software is acceptable for delivery or not. It is also known as user acceptance testing (UAT).

### **Interactive Testing**

Interactive Testing is also known as manual testing, interactive testing enables testers to create and facilitate manual tests for those who do not use automation and collect results from external test

### **Integration Testing**

Integration testing ensures that an entire, integrated system meets a set of requirements. It is performed in an integrated hardware and software environment to ensure that the entire system functions properly.

### **Regression Testing**

Regression testing is performed to determine if code modifications break an application or consume resources.

### **Sanity Testing**

Performed after bug fixes, sanity testing determines that the bugs are fixed and that no further issues are introduced to these changes.

### **Smoke Testing**

This type of software testing validates the stability of a software application, it is performed on the initial software build to ensure that the critical functions of the program are working.

### **Functional Testing**

It is a type of software testing that validates the software system against the functional requirements/specifications. The purpose of Functional tests is to test each function of the software application, by providing

appropriate input, verifying the output against the Functional requirements.

## **System Testing**

It is a type of software testing that is performed on a complete integrated system to evaluate the compliance of the system with the corresponding requirements.

### **Cross Platform testing:**

- Users all over the world have the choice to use whatever device, browser, OS to access the web. In other words, your application will have to render and work flawlessly from different devices and the OS they work on. To ensure this, products must be tested on as many platforms as possible – especially the ones in popular use. It is a good idea to start with the most popular ones or at least the ones your target audience is most likely to use.
- It entails cross platform browser testing as well as cross platform devices testing – mobile and desktop. This form of testing identifies issues as they may appear on specific devices, browser versions, OS configurations – in terms of usability, consistency, UI, and performance bugs.
- Without cross platform testing, perfectly usable apps may malfunction on different browsers or browser versions, or different operating systems

### **Multi Machine setup:**

- Multi Machine setup is required when IBServer and IBClients are on different machines

## Testing Tool Used

### **JIRA**

The most regularly used bug tracking tool is **JIRA**, which is an open-source tool. It is used for bug tracking, project management, and issue tracking.

In this tool, we can easily track all kinds of bugs or defects related to the software and produced by the test engineers.



### **Features of JIRA**

- It is a time-saving tool.
- Jira is used to track the defects and issues.
- It is used to establish the documentation tasks.
- Jira is a very useful tool in tracking the improvement of our documentation.

# Software Testing Life Cycle

**Software Testing Life Cycle (STLC)** is a sequence of specific activities conducted during the testing process to ensure software quality goals are met. It consists of a series of activities carried out methodologically to help certify your software product. STLC stands for Software Testing Life Cycle.

There are following six major phases in every Software Testing Life Cycle Model (STLC Model):

1. Requirement Analysis
2. Test Planning
3. Test case development
4. Test Environment setup
5. Test Execution
6. Test Cycle closure

# Timeline:

January 2022

- Week 1:
  - Orientation related to the company and on-boarding process.
  - Knowledge Transfer sessions on InBetween Software.
  - Knowledge Transfer sessions on Web based Clients
  
- Week 2:
  - Generated files in different formats using InBetween project editor.
  - Knowledge transfer sessions on Jira.
  - Training on Qa process including Bug ticket creation , Test case writing and update

Functionality Testing's:

- InDesign Dtp client functionality
  
- Week 3:
  - Training on different output format supported by IB, Generated files in different formats using InBetween publication wizard, url generator.
  - Knowledge transfer sessions on Batch Clients, and how they work.
  - Knowledge transfer sessions on Gradle.

Functionality Testing's:

- InDesign Dtp client functionality

- Update of INDD
  
- Week 4:
  - Knowledge transfer sessions on Multi machine setup
  - Overview on Renderers.
  - Knowledge transfer sessions on Publisher and Admin.

#### Functionality Testing's:

- Publication Wizard
- Test of IB Publisher
- RIC Regression Test

#### February

##### Week 1:

- Knowledge transfer on how to write test cases.
- Execution of fts to understand IB clients features
- Training on RIC and Smoke Testing Setup
- Testing First bug Of Project Editor, Testing method used are UI testing and feature, Tested on Mac and window system

#### Functionality Testing's:

- RIC Regression Test
- Platform Test: Mac Os IB Big Sur
- Quark 2020 Plugin Test

##### Week 2:

- Testing Bug IBSSO Page: UI testing
- Reproducing of Issue
- Understanding and Writing test steps for New Feature and Bug Tickets got them Reviewed and Approved from seniors
- Testing PW and Dtp client Bug: Tooltips and functionality Testing of feature

#### Functionality Testing's:

- Platform Test: Windows 11
- DTP Template and Data library Test
- Quark 2020 Plugin Test

#### Week 3:

- Testing of PW bug: UI issue, Feature of Different IB pages
- Reproducing of Issue
- Testing of Publisher bug: Feature of Different Output formats
- Reopening of Bug tickets
- Methods used for testing Acceptance, Functional, Sanity testing
- Writing test steps for different clients as one new feature was implemented for all clients

#### Week 4:

- Testing of Admin Bugs: Functional Testing
- Reproducing of Issue

- Testing of Pw Bugs: Acceptance, Functional, Sanity testing, Ui testing
- Testing PE project import Error
- Created new bug ticket
- Tested Mac specific Issue
- Fun Activity

### Week 5:

- writing test cases of Bug

### Functionality Testing's:

- Illustrator Inbetween
- Window illustrator Plugin Test
- Mac Illustrator Plugin Test

### March

### Week 1:

- writing test cases of Bug
- Reproducing of Issue
- Tested Pw bugs and Reopening of Bug tickets
- Executing Fts to test new AWS cloud machine
- Fun Activity
- Discussion with Team Senior QA hand over of all Team Testing Tickets
- Knowledge Transfer on Docker
- Explanation by senior Qa on all team tickets

## Functionality Testing's:

- Illustrator Inbetween
- Window illustrator Plugin Test
- Mac IB Dtp Client Plugin Test
- IB Installer Silent

## Week 2:

- Went thought all team tickets
- Reproducing of Issue
- Wrote test steps for Bug and improvement feature
- Testing of Bug tickets on Job automation, PW, Admin, Publisher
- Reopening of Bug tickets
- Testing New Feature on Batch and Hot folder client

## Functionality Testing's:

### Update of Table with Splits

## Week 3:

- Testing of Adscape Issue
- Wrote test cases for improvement feature
- Reopening of Bug tickets
- Tested Akeno Improvement ticket
- Tested Publisher Improvement ticket
- Reproduced Bugs

- Tested Publisher Introduced Bug of Error During Generation with all output Formats

#### Week 4:

- Created blocker ticket on renderer
- Created blocker ticket for Project Editor error
- Tested Blocker issue
- Created new bug ticket
- Reproduced and Tested bug of Hotfolder: Logs Error
- Wrote steps for Bug tickets
- Tested Job Automation Bug
- Tested Publisher new improvement Feature
- Tested new Feature for Dtp client and Project Editor
- Reopening of Improvement ticket
- Tested AWS cloud machine

#### Functionality Testing's:

- InDesign Dtp client functionality
- Test Batch Client

#### Week 5:

- Created Blocker ticket for Batch Client and Hot Folder as existing feature was broken
- Tested Blocker issue
- Tested Customer Support DTP Client ticket
- Reproduced Bug
- Tested bug tickets PW, PE
- Reopened bug tickets and Improvement

- Tested Improvement Ticket for all the clients

### Functionality Testing's:

- RIC Regression Test
- Platform test Mac
- Platform test Windows 11

### April

#### Week 1:

- Updated Documentation
- Tested Improvement Feature Ticket
- Executed batch Ft to test Aws machine
- Tested NoSql Bug Ticket
- Reproduced issue
- Tested PW, admin, Job Automation, PE bugs Ticket

#### Week 2:

- Updated Documentation
- Created new Bug tickets
- Reproduced and Tested PE, Publisher, Nosql, Job Automation bug tickets
- Tested improvement ticket for All clients
- Reopened improvement ticket
- Fun Activity

#### Week 3:

- Created new Bug tickets

- Reproduced and Tested PE, Publisher, Nosql, Job Automation bug tickets
- Updated Documentation
- Explanation Of IB clients Qa process to New Joined Qa

#### Functionality Testing's:

- RIC Regression Test
- Multi machine update of INDD

#### Week 4:

- Tested tooltip issue of Publisher
- Reopened ticket
- Wrote test step
- Testing PE Bug Tickets
- Team engagement activity
- Tested Mac specific Issue

#### Functionality Testing's:

- IB Admin Test
- Test InBetween Styles

#### May

#### Week 1:

- Understanding and Writing test cases for new feature
- Tested PE tooltip issue
- Reopening of tickets
- Created new bug ticket

- Tested Nosql Connector Issue
- Tested PE, PW, Publisher, InDesign Bug tickets

#### Week 2:

- Executed new Mac testing's FTs
- Tested NosSql Connector bug ticket
- Tested PE bug tickets
- Test improvement tickets for all client
- Tested PE tooltip issue

#### Week 3:

- Tested PE bug ticket
- Fun Activity

#### Functionality Testing's:

- Quark Plugin Test
- IB installer mac
- DTP client Plugin
- Job automation

#### Week 4:

- Tested bug tickets of PE, Batch client, IBsso, Pw
- Reopened dev ticket
- Wrote test cases
- Executed New Mac testing Ft
- Fun Activity

June

## Week 1:

- Wrote test cases got it approved
- Tested new Improvement Ticket oF PE
- Tested Batch client and Reopening of dev ticket
- Executed New Mac Testing FT
- Testing PW bug tickets
- Tested Job Automation Error
- Tested Issue for Soap and Url generator

## **Learnings:**

Personal Growth doesn't happen suddenly. It's an everyday improvement you need to commit and follow.

- My internship at INBetween Software has been an interesting and wonderful experience which helped me to turn my theoretical learning in practical use.
- Got an opportunity to work under one of the best team leaders and mentor.
- Working in a distributed team environment helped me understand team work better.
- Working in a disciplined, organizational team environment also helped me in developing a higher level of self-confidence.
- Got a chance to understand how Software Development Life Cycle (SDLC) is used by the software industry to design and develop high quality software's in systematic and planned manner.