**3 February – 12 March / 2021**

**İSTANBUL TECHNICAL UNIVERSITY**

**Faculty of Computer Science and Informatics**

**INTERNSHIP PROGRAM REPORT**

**Cihan GÜZEL**

**150140302**

**INTERNSHIP PROGRAM: Software**

**Development of Java Integration Services and Applications**

**İSTANBUL TECHNICAL UNIVERSITY**

**Faculty of Computer Science and Informatics**

**INTERNSHIP PROGRAM ACTIVITY REPORT**

Academic Year: 2020 - 2021

Period of Training: Spring

**Student Information**

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| --- | --- |
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| Taking a class at Summer School? | No |

**Institution Information**

|  |  |
| --- | --- |
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**Internship Program Information**

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| --- | --- |
| Location | Turkey |
| Starting Date | 03.02.2021 |
| End Date | 12.03.2021 |
| Number of Days Worked |  |
| During your internship, did you have insurance? | Yes, I was insured by İTÜ. |

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7. **INFORMATION ABOUT THE INSTITUTION**

Turkey's largest privately-owned investment bank, Aktif Bank in Turkey with innovative business models and technology investments that reinterprets the largest financial technology investment banking continues to operate as an ecosystem.

Aktif Bank, with products it offers physical and digital channels in Turkey and the global financial technology companies and business partners as well as competitors are moving. Having a customer-oriented approach in its genetic codes, the Bank, together with its subsidiaries and business partners, appeals to more than 10 million customers in more than 10 business lines from loans to insurance, transportation to card services, payment systems to entertainment world at every point.

Aktif Bank with 12 branches located in Turkey, a predominantly require a communication corporate banking, investment banking and private banking focus. Aktif Bank, which owns 18% of the retail customer market with its effective collaborations in retail banking, innovative business models and digital channel investments, today provides service with its subsidiaries and approximately one thousand employees. Aktif Bank also undertakes the name sponsorship of the Istanbul Marathon with its digital bank N Kolay, which makes life easier and responds quickly to the needs of individuals anytime, anywhere, without a branch. The dynamism and egalitarian, lean service model of the N Kolay brand; It turns into a harmonious cooperation by coming together with the spirit of the Istanbul Marathon, one of the most important marathons in the world.

Aktif Bank, another player of the digital world, provides easy access not only to matches but also to all events from concerts to theater, with its mobile application Passo. Continuously developing the Passo application, the Bank diversifies the advantages it provides in stadiums with opportunities such as 24/7 money transfer with QR, shopping and instant loans. With Passolig, the key to safety and comfort in the stands, Aktif Bank both supports football clubs and offers opportunities and privileges to its fans.

1. **INTRODUCTION**

Between the term break of 2020-2021 season, I performed my internship at Aktif Bank, which is the institution where I currently continue working as well. I had a chance to work on an software development team which belongs to a friendly and supportive environment and they helped me adopt the workplace and provided the informations that I needed during the projects. During the internship, I had opportunites to attend some seminars related to digital banking from experts of these subjects. I was the part of Integration Application Development Team of the Card Payment Systems Department. Each team member explained what their role is and what type of projects they were working on as well as what were my role and tasks in this group that I joined.

Througout the internship, I took part in various projects that I had no experience before and had a very educating chance to learn the technologies and tools used in software devolopment and production line. As a project management process, Jira which is a work management tool for all kind of software development cases, from requirements and test case management to Agile Scrum methodology is used for assigning tasks to developers for every week. I used Java programming language for developing J2EE applications, GUI’s with the help of Java SWING. I also developed web application and services over SOAP protocol, used database management system from Oracle Database and Graymound Framework which provides Service Oriented Architecture wise development and aims to give a acceptable interface for using enterprise components of Java.

1. **DESCRIPTION AND ANALYSIS OF THE INTERNSHIP PROJECT**

Througout my internship, I have been given many tasks which includes Desktop Applications using Graymound GUIML interface and for the business development I coded services on a unique structure provided by Graymound Framework. All the functionalities we developed were structured as a services so that it will be available for any channel on the network which has access. Swagger was the main tool used to define the structures and documentation of RESTful services and api’s that I coded which expressed as JSON. As an important part of development, I have experienced a software development workflow which includes Development-Test-UAT(User Acceptance Test)-Production line. For the database management system, I have coded procedures and functions on Oracle database that I used in GUI’s and services I developed.

1. **JAVA DESKTOP APPLICATION FOR MONITORING**

**BLOCKS ON PREPAID CARDS**

In this projects, I developed a java desktop application on Eclipse IDE to monitor blocks on prepaid cards for various reasons. On the monitoring screen, some required information has to be taken as an input and then listed all the prepaid cards filtered according to restrictions. A data field which has to be filled with customer number has to list all the customers if required as and mini window of List of Values. For the purpose of getting the data from database, Oracle JDBC functionalites is used to establish the connection.

* 1. **Technologies**
* **Java:** Java is a class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible.
* **JDBC:** The Java Database Connectivity (JDBC) API provides universal data access from the Java programming language. Using the JDBC API, you can access virtually any data source, from relational databases to spreadsheets and flat files.
* **Swing Components under Graymound Framework:** Graymound GUIML is and interface that reduce designing time by providing an Eclipse plug-in for SWING. Basically, created designer provides a bug-less, simple, fast, user-friendly interface.
  1. **Project Details**