REVISION HISTORY

Date	Version	Description	Author
10.11.2019	1.0	Assignment of work to members.	Kerem Güre
10.11.2019	1.1	Some of the Package Diagrams and Activity Diagrams Added	Cenker Karaörs
10.11.2019	1.2	Added Package Diagrams and Class Diagrams.	Kerem Güre
11.11.2019	1.3	Deployment Diagram added.	Barış Özbaş
11.11.2019	1.4	Added Component interface details.	Kerem Güre, Burak Deniz
11.11.2019	1.5	Added Software Requirements	Denizcan Özpınar
11.11.2019	1.6	Added two diagrams.	Emre Ay, Burak Deniz
11.11.2019	1.7	Added Activity Diagrams.	Cenker Karaörs,Burak Deniz
12.11.2019	1.8	Fixed some diagrams.	Kerem Güre
12.11.2019	1.9	Cots Identifications added	Barış Özbaş, Denizcan Özpınar
12.11.2019	1.10	Filled the Table Of Contents	Kerem Güre
12.11.2019	1.11	Did minor fixes and overall check before submission.	Kerem Güre, Burak Deniz
21.11.2019	2.0	Updated the report requirements to members and assigned the work.	Kerem Güre
21.11.2019	2.1	Added sequence diagram	Cenker Karaörs
21.11.2019	2.2	Added Class Diagram for bpmt	Denizcan Özpınar
21.11.2019	2.3	Added sequence diagram for bmpt	Burak Deniz,Denizcan Özpınar
21.11.2019	2.4	added methods and attributes to interface sections	Kerem Güre, Barış Özbaş
21.11.2019	2.5	added class diagram for log	Kerem Güre
21.11.2019	2.6	did general fixes for submission	Kerem Güre, Burak Deniz, Cenker Karaörs
21.11.2019	2.7	updated the table of contents	Kerem Güre, Barış Özbaş

TABLE OF CONTENTS
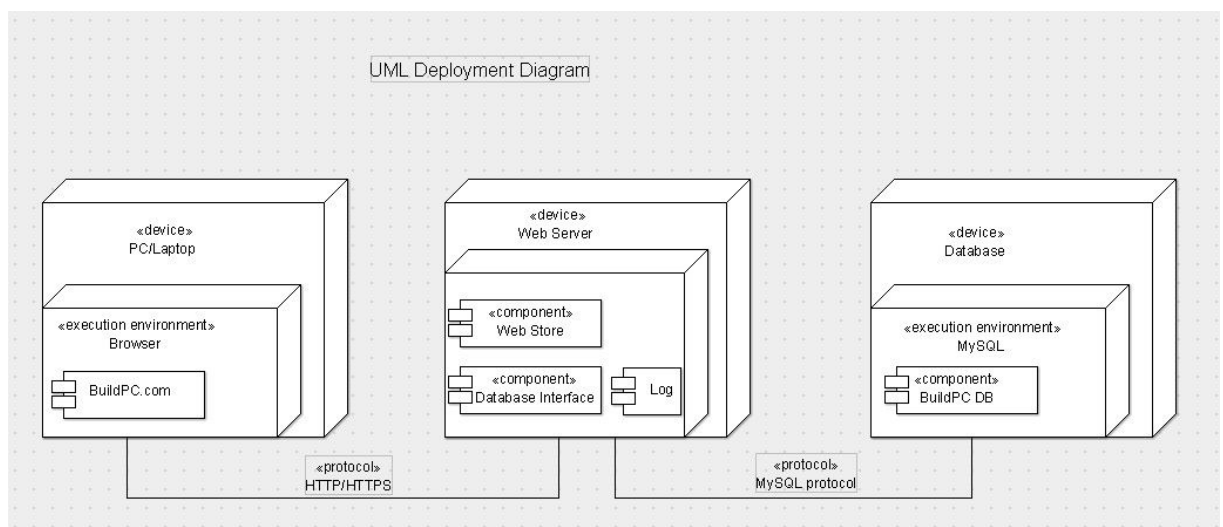
1 Introduction

This document describes the design of the BPP software system.

1.1 *References*

1.1.1 Project References

#	Document Identifier	Document Title
1	BPP-SRS	BPP Software Requirements Specifications

2 Software Architecture Overview

The client(PC/Laptop) and Database are external components. Therefore, the document will not include their details.
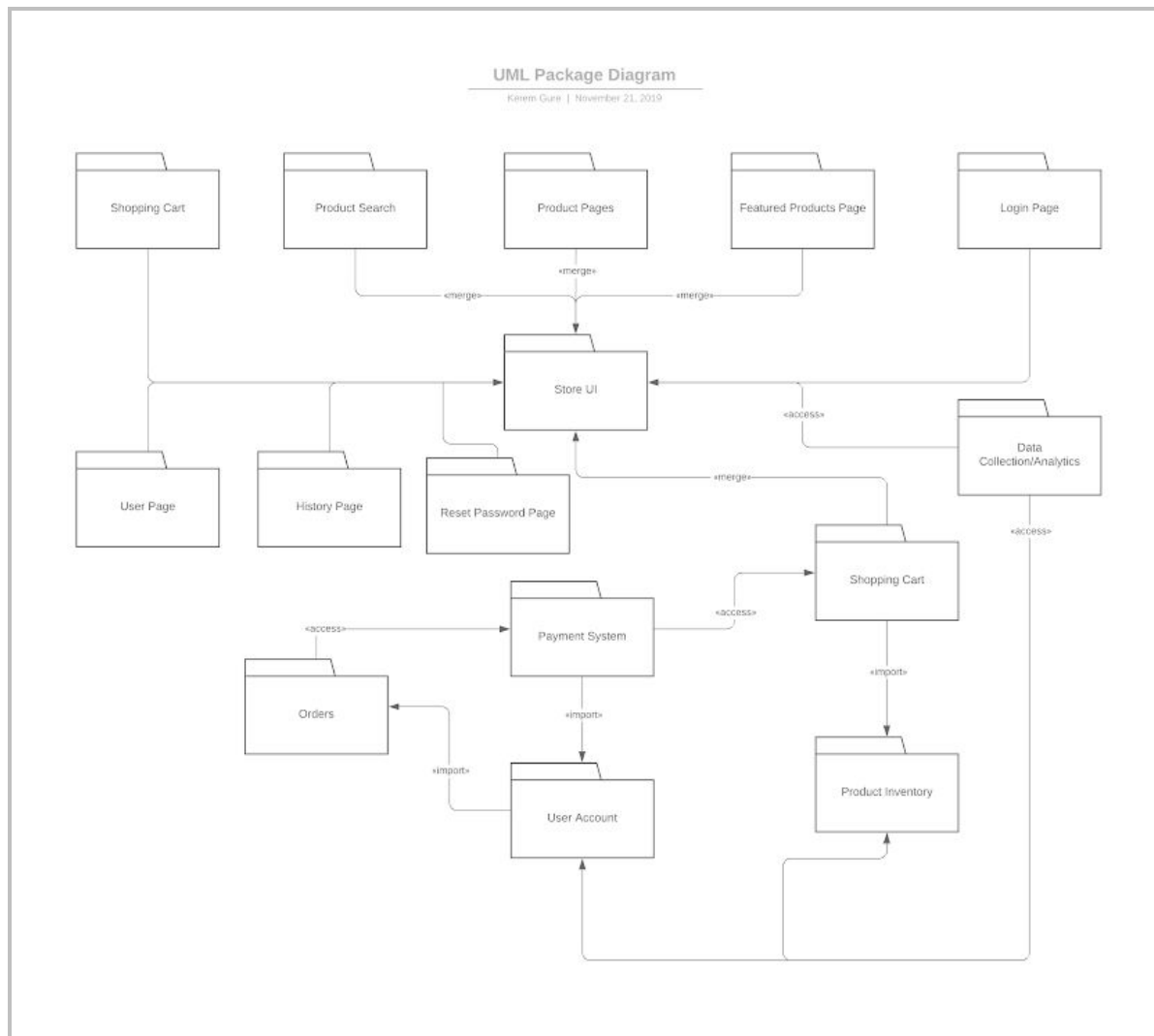
3 Software design description

3.1 *Web Store Component*

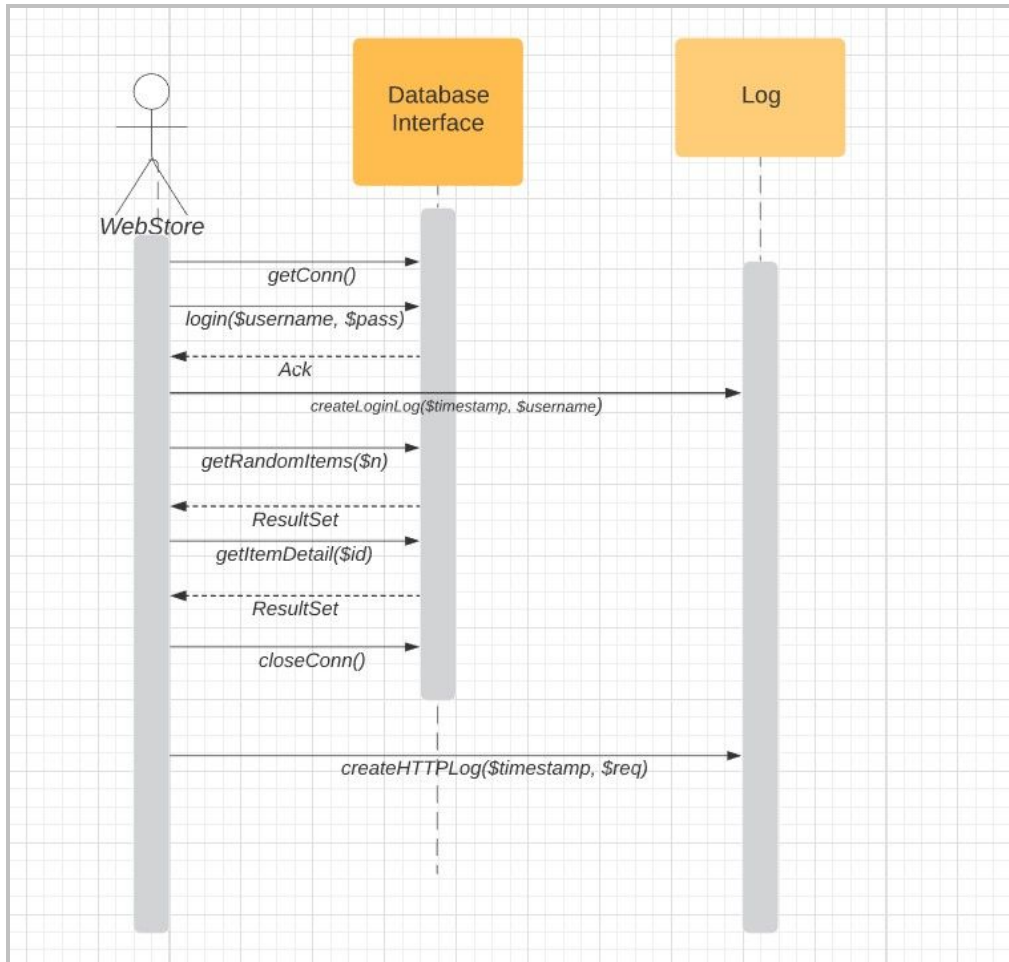Our WebStore component is a top-level component that uses other components. Therefore, it doesn't expose any public methods to other components defined in the deployment diagram(Section 2.).

3.1.1 Component design description

The following Package Diagram shows the packages/pages offered to the client(browser) and the background processes such as Data Collection/Analytics(shown as Log in Deployment Diagram.).

3.1.2 Workflows and algorithms

3.1.3 Software requirements mapping

1. SRS-BPP-001
2. SRS-BPP-001.2
3. SRS-BPP-002
4. SRS-BPP-003
5. SRS-BPP-004
6. SRS-BPP-005
7. SRS-BPP-007

3.2   Database Interface Component

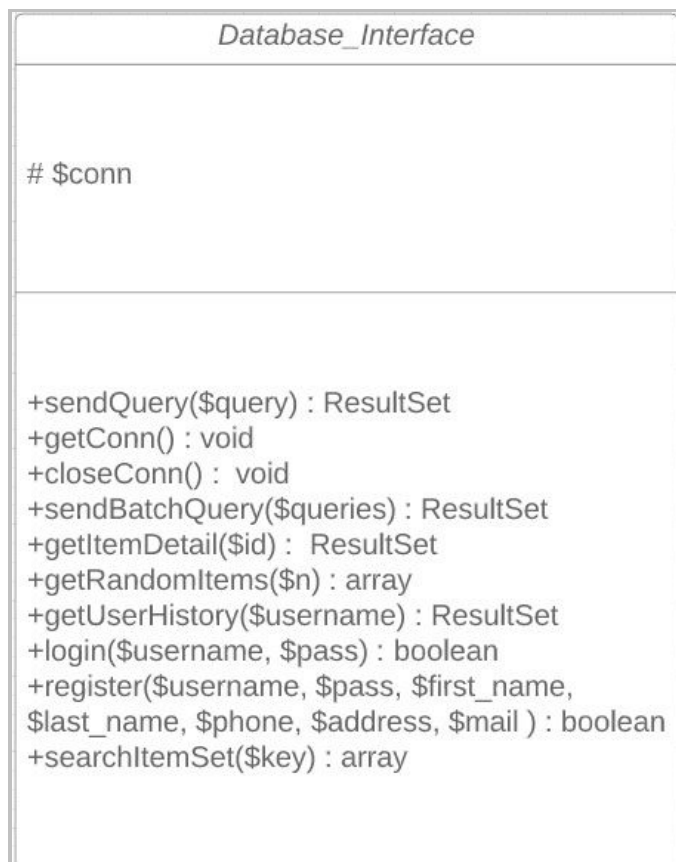#### 3.2.1   Component interfaces
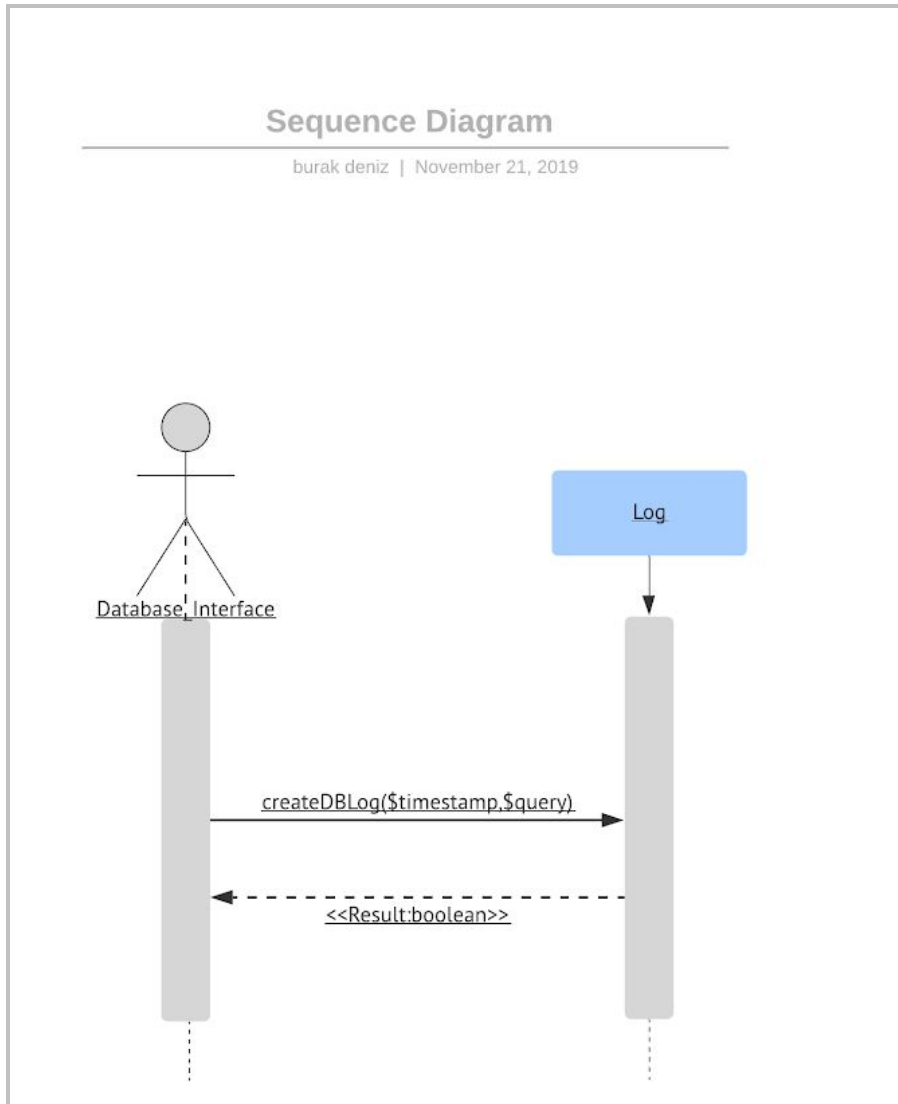❖ **Attributes**
  ➢ $conn
❖ **Methods**
  ➢ ResultSet sendQuery($query)
  ➢ void getConn( )
  ➢ void closeConn( )
  ➢ ResultSet sendBatchQuery($queries)
  ➢ ResultSet getItemDetail($id)
  ➢ array getRandomItems($n)
  ➢ ResultSet getUserHistory($username)
  ➢ boolean login($username, $pass)
  ➢ boolean register($username, $pass, $first_name, $last_name, $phone, $address, $mail)
  ➢ array searchItemSet($key)

3.2.2   Component design description

```
                Database_Interface

  # $conn



  +sendQuery($query) : ResultSet
  +getConn() : void
  +closeConn() :  void
  +sendBatchQuery($queries) : ResultSet
  +getItemDetail($id) :  ResultSet
  +getRandomItems($n) : array
  +getUserHistory($username) : ResultSet
  +login($username, $pass) : boolean
  +register($username, $pass, $first_name,
  $last_name, $phone, $address, $mail ) : boolean
  +searchItemSet($key) : array
```

3.2.3   Workflows and algorithms

Sequence Diagram

burak deniz | November 21, 2019

3.2.4   Software requirements mapping
1. SRS-BPP-003
2. SRS-BPP-003.1
3. SRS-BPP-004.1
4. SRS-BPP-004.2
5. SRS-BPP-006

3.3 Log Component

3.3.1 Component interfaces

- ❖ Public Methods
  - ➢ boolean createBasketLog($timestamp, $itemid, $username, $actionType, $amount)
  - ➢ boolean createHTTPLog($timestamp, $req)
  - ➢ boolean createLoginLog($timestamp,$username)
  - ➢ boolean createRegisterLog($timestamp, $username)
  - ➢ boolean createDBLog($timestamp,$query)
- ❖ Attributes
  - ➢ $logFile
  - ➢ $updateInterval
  - ➢ $queue

3.3.2 Component design description

Class Diagram with UML Notation

Kerem Gure | November 21, 2019

Log

#$logFile
#$updateInterval
#$queue

+createBasketLog($timestamp, $itemid, $username, $actionType, $amount) : boolean

+createHTTPLog($timestamp, $req) : boolean

+createLoginLog($timestamp,$username) : boolean

+createRegisterLog($timestamp, $username) : boolean

3.3.3 Workflows and algorithms

The Log component does not use any public method exposed by other components. In addition to that, all of its public method's interactions between other classes are detailed in the above diagrams(Section 3.1.3, Section 3.2.3).
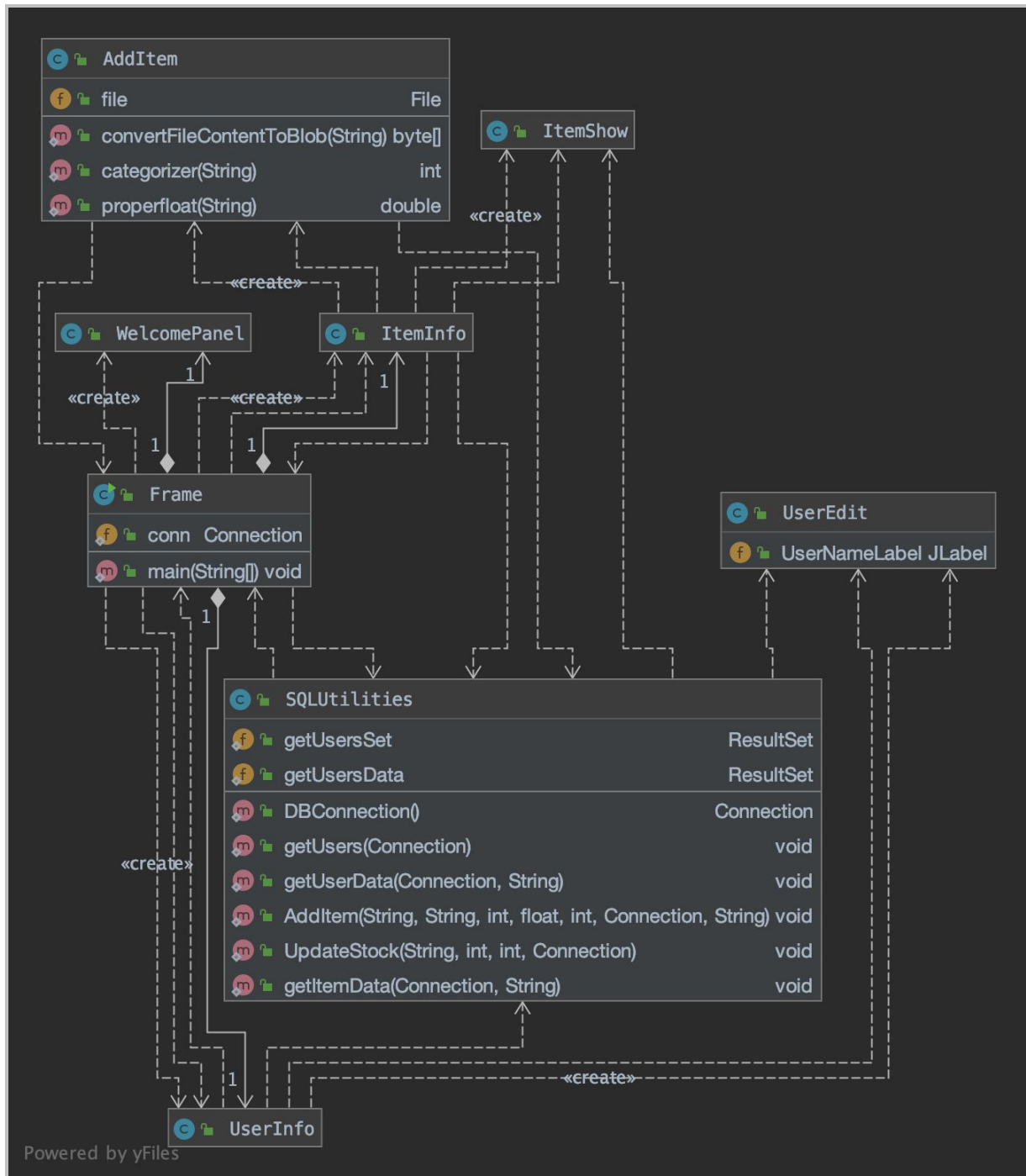
3.3.4 Software requirements mapping

1. SRS-BPP-001.1
2. SRS-BPP-004
3. SRS-BPP-005
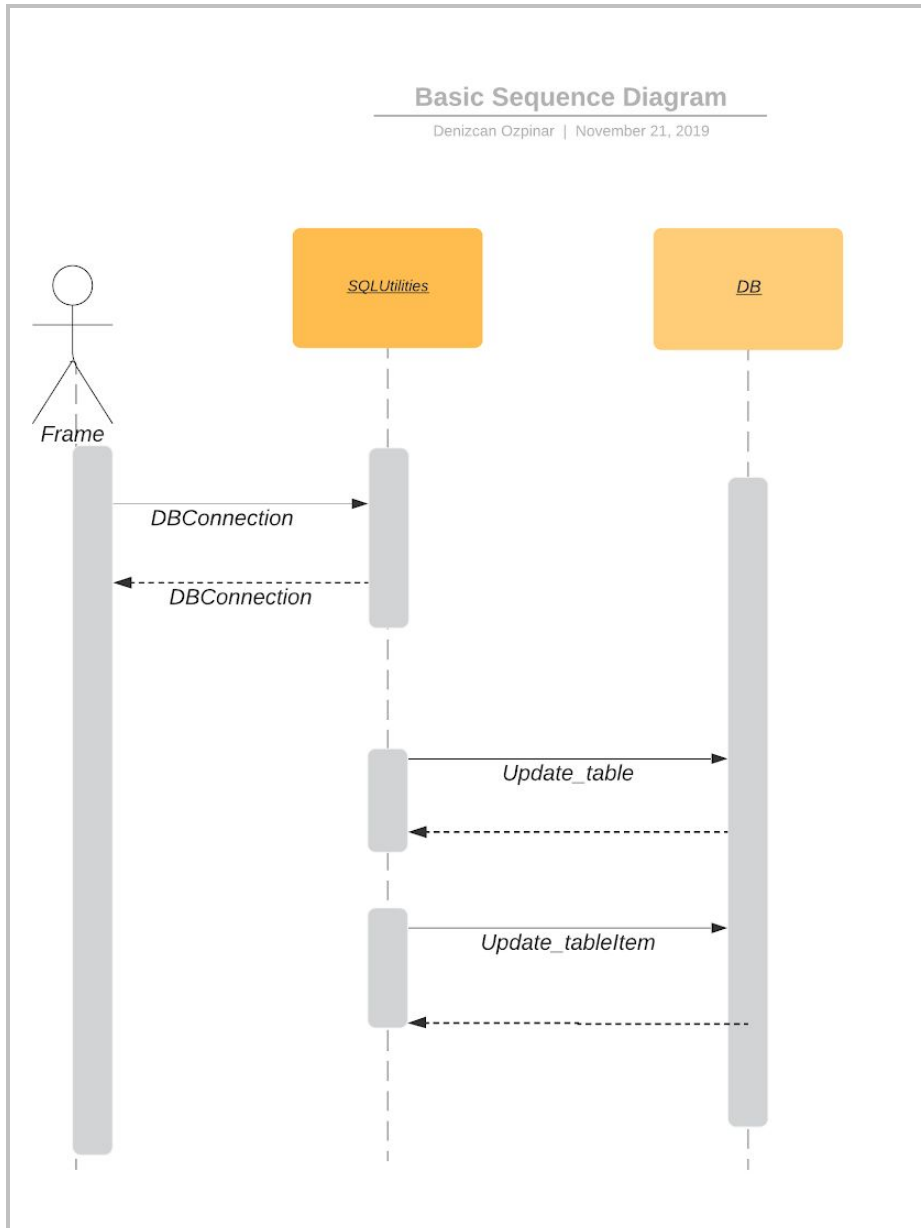4. SRS-BPP-005.1
5. SRS-BPP-007

3.4 BPMT Component
3.4.1 Component Interfaces

- ❖ Class SQLUtilities
  - ➢ Methods
    - ■ ResultSet getUsersSet( )
    - ■ ResultSet getUsersData( )
    - ■ Connection DBConnection( )
    - ■ void getUsers(Connection)
    - ■ void getUsersData(Connection, String)
    - ■ void AddItem(String, String , int, float, int, Connection , String)
    - ■ void UpdateStock(String, int , int , Connection)
    - ■ void getItemData(Connection , String)
- ❖ Class UserInfo
  - ➢ Methods
    - ■ UserInfo( )
- ❖ Class Useredit
  - ➢ Attributes
    - ■ JLabel UserNameLabel
    - ■ UserEdit
- ❖ Class AddItem
  - ➢ Methods
    - ■ byte[] convertFileContentToBlob(String)
    - ■ int categorizer(String)
    - ■ double properfloat(String)
  - ➢ Attributes
    - ■ File file
- ❖ Class ItemShow
  - ➢ Methods
    - ■ ItemShow( )
- ❖ Class WelcomePanel
  - ➢ Methods
    - ■ WelcomePanel( )
- ❖ Class ItemInfo
  - ➢ Methods
    - ■ ItemInfo( )

3.4.2 Component Design Description

3.4.3 Workflows and algorithms

Basic Sequence Diagram
Denizcan Ozpinar | November 21, 2019

3.4.4 Software requirements mapping
1. SRS-BPP-BPMT-001
2. SRS-BPP-BPMT-001.1
3. SRS-BPP-BPMT-001.2
4. SRS-BPP-BPMT-001.3
5. SRS-BPP-BPMT-001.4
6. SRS-BPP-BPMT-001.5
7. SRS-BPP-BPMT-002
8. SRS-BPP-BPMT-003

4 COTS Identification

COTS (commercial off the shelf) libraries used in BPP-BPMT are the following:

- **mysql-connector-java-8.0.17.jar**, https://mvnrepository.com/artifact/mysql/mysql-connector-java/8.0.17, The GNU General Public License, v2 with FOSS exception.
- **rs2xml.jar**, https://sourceforge.net/projects/finalangelsanddemons/files/rs2xml.jar/download, JDOM license.

COTS (commercial off the shelf) libraries used in BPP are the following:

- Laravel framework, https://laravel.com, MIT license.
- Twitter Bootstrap, https://getbootstrap.com, MIT license.