Software Requirements Specification

Night Club Data Visualization Applications

DUMI Software

Uluç Furkan Vardar

Muhammed Köstekli

İlkay Tevfik Devran

Deniz Anıl Çolak

GitHub Link: https://github.com/UlucFVardar/Night-Club-Data-Visualization

1. Introduction

This section gives a scope description and overview of everything included in this SRS document. Also, the purpose for this document is described and a list of abbreviations and definitions is provided.

1.1 Purpose

This document is prepared to explain content of the project and how the software works.

1.2 Scope

The “Night Club Data Visualization Application” is a mobile/console application which helps people to visualize charts, graphs and all the data which have been provided from Excel files.The application should be free to download from either a mobile phone application store or similar services.

Night club owner can use the applications for visualize information about all the sales which are filtered by date, profit ,endorsement so on and so for.Applications have a simple GUI for the user satisfaction.Also some managers are able to insert data for the owner.But these managers are not allowed to visualize all data from their accounts.

1.3 Definitions, acronyms, and abbreviations

API : Application Programming Interface

Console App: Java application for this software project to manage all activities.

DB: Database of this project

Mobile Apps: Android and IOS supported platform applications which will work simultaneously.

Telegram Bot: Chat bot program ,which can work in Telegram chat program.

1.4 References

[1] IEEE Software Engineering Standards Committee, “IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications”, October 20, 1998.

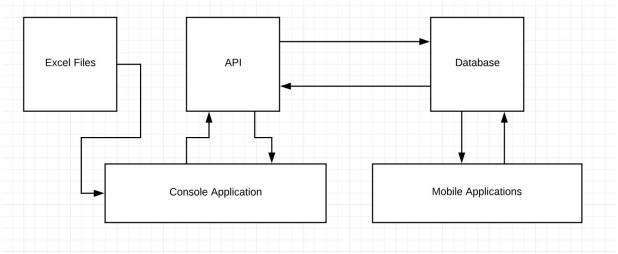
1.5 Overview

The remainder of this document includes three chapters. The second one provides an overview of the system functionality and system interaction with other systems. This chapter also introduces different types of users and their interaction with the system. Further, the chapter also mentions the system constraints and assumptions about the product. The third chapter provides the requirements specification in detailed terms and a description of the different system interfaces. Different specification techniques are used in order to specify the requirements more precisely for different audiences.

2. Overall description

The goal of the software project we are doing is to plan how one nightclub will be managed with the visualization of historical data and to facilitate the process of forward-looking decision-making.

2.1 Product perspective



This system will consist of three parts: one console application and two mobile applications.The console app takes formatted excel files and parse their data and with using this data generates all possible visual results also has a role that provides data resource for mobile apps with using API’s that connects to DB.Mobile apps provides easy access to some charts and also comments . Console app, provides graphical filters and graphs that the user can request to analyze with the data obtained from Excels.

Mobile applications help to analyze using excel data in line with their goals. To provide this data, the console application adds the data to the database via the API as soon as the data reaches it.

Since this is a data-centric product it will need somewhere to store the data. For that, a database will be used. Both the mobile application and console application will communicate with the database which stored in a web host.

2.2 Product Functions

With the Console App user can upload new excel files, it allows comparison with several filters like date, artist, endorsement etc. on data and user can define daily comments on each event.

With the mobile apps user can view visualized data which inserted into database by the console app. Apps will represent daily endorsement with some specific details like unit sales, artist etc. with charts to user.

2.3 User Characteristics

There are two types of users that interact with the system: night-club owners and administrators. Each of these two types of users has different use of the system so each of them has their own requirements.

The night-club owner will use mobile applications and console application. Briefly, s/he has all rights to do with both applications.

The administrator interact only with console app. S/he has right to upload and update excel files to console app.

2.4 Constraints

The Internet connection is also a constraint for the application. Since the application fetches data from the database over the Internet both mobile app and console app required the internet connection.

Mobile apps supported on Android and IOS platforms. (Android version ^5.5 and IOS ^11.3)

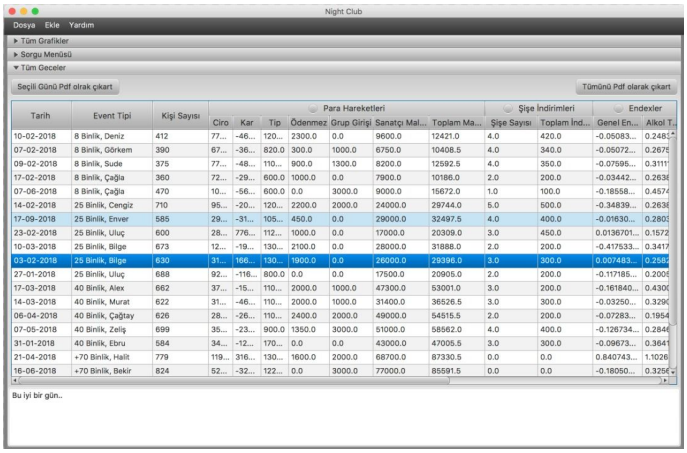
Console application requires Java 8 SDK. (Java 9 is not supported)

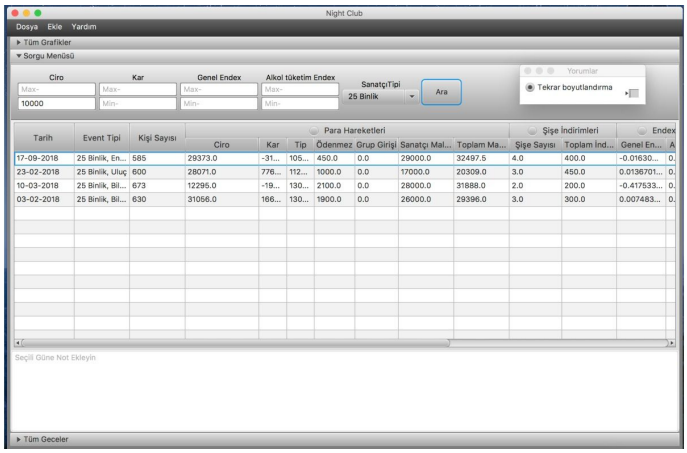
3. Specific requirements

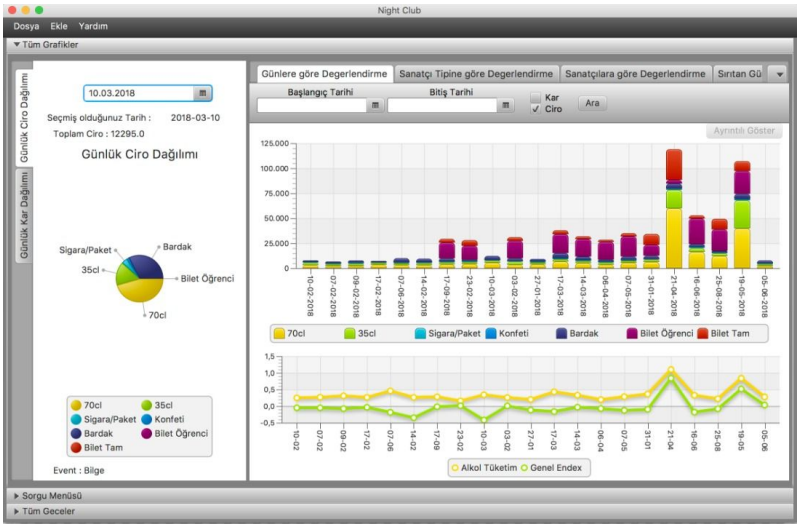
This section contains all of the functional and quality requirements of the system. It gives a detailed description of the system and all its features.

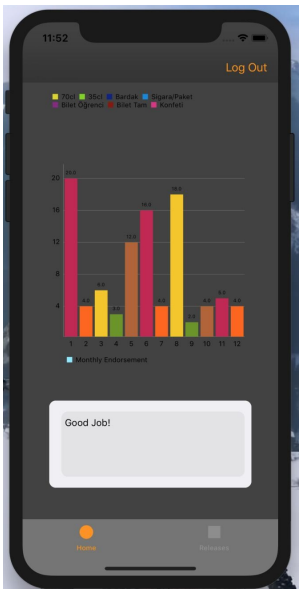
3.1 External Interface Requirements

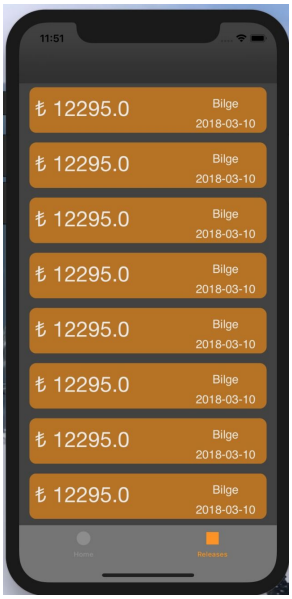
Console Application: In console application program takes all the Excel documents as input then program manages all the data in Excels and generates graphs and charts for each content determined before.



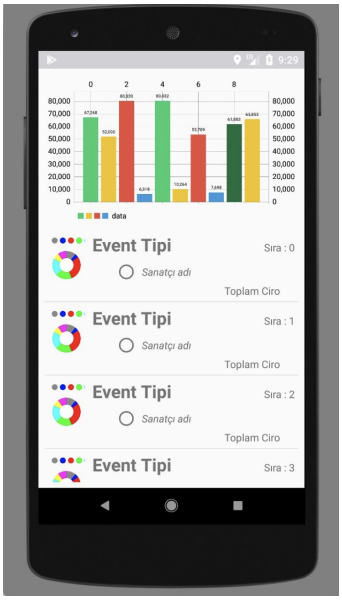


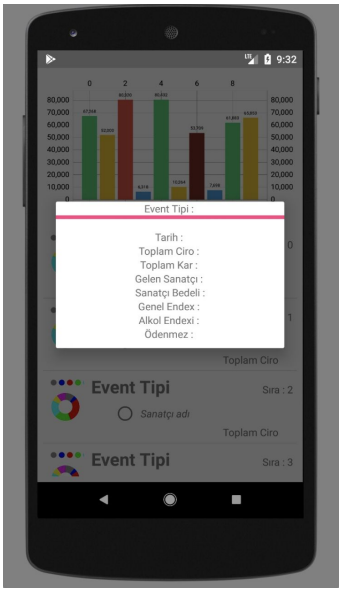






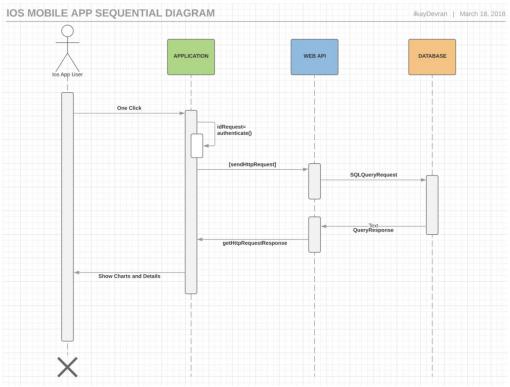
IOS/Android: With the mobile apps user can view visualized data which inserted into database by the console app. Apps will represent daily endorsement with some specific details like unit sales, artist etc. with charts to user.

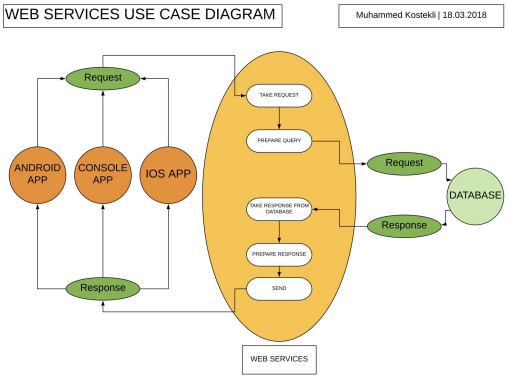


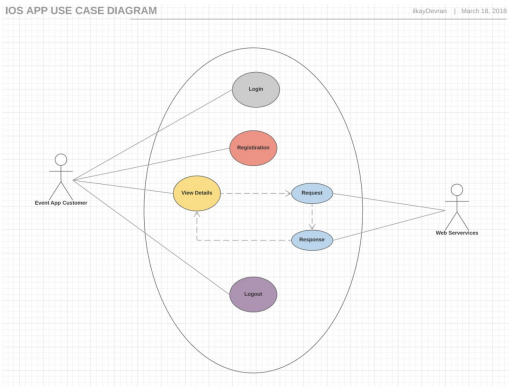


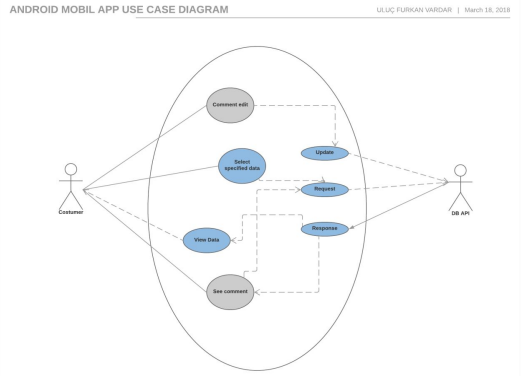
3.2 Functional requirements

For Console App,IOS and Android and Web services use case diagrams are given below.



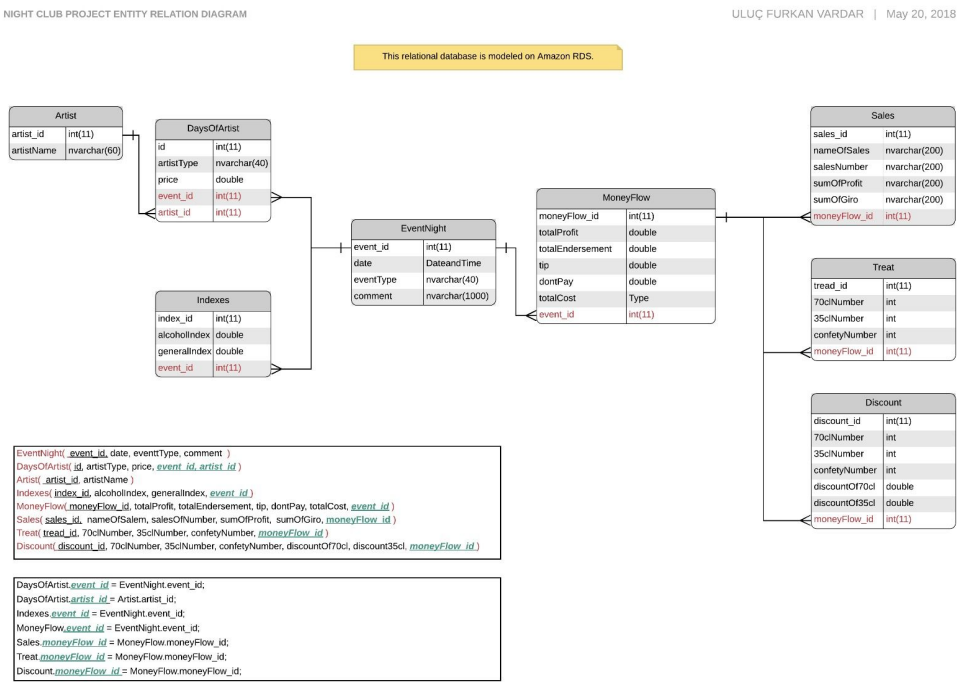






3.3 Database Requirements

For the database which used in the project ,ER Diagram is given below.



3.4 Design Constraints

TAG: HardDriveSpace

GIST: Hard drive space.

SCALE: The application's need of hard drive space.

METER: MB.

MUST: No more than 20 MB.

PLAN: No more than 15 MB.

WISH: No more than 10 MB.

MB: DEFINED: Megabyte

3.5 Quality Features

The requirements in this section specify the required reliability, availability, security and maintainability of the software system.

3.5.1 Reliability

TAG: SystemReliability

GIST: The reliability of the system.

SCALE: The reliability that the system gives the right result on a search.

METER: Measurements obtained from 1000 searches during testing.

MUST: More than 98% of the searches.

PLAN: More than 99% of the searches.

WISH: 100% of the searches.

3.5.2 Availability

3.5.2.1:

TAG: SystemAvailability

GIST: The availability of the system when it is used.

SCALE: The average system availability (not considering network failing).

METER: Measurements obtained from 100 hours of usage during testing.

MUST: More than 98% of the time.

PLAN: More than 99% of the time.

WISH: 100% of the time.

3.5.2.2:

TAG: Internet Connection

DESC: The application should be connected to the Internet.

RAT: In order for the application to communicate with the database.

DEP: none

3.5.3 Security

TAG: CommunicationSecurity

GIST: Security of the communication between the system and server.

SCALE: Excel's data inserted database by API. API has specific security policy for database connection and insert data

MUST: 100% of the inserted operations need to be successful

3.5.4 Maintainability

TITLE: Application extendibility

DESC: The application should be easy to extend. The code should be written in a way that it favors implementation of new functions.

RAT: In order for future functions to be implemented easily to the application.

DEP: none