



# SOFTWARE ANALYSIS AND DESIGN

<QUESTION ANSWERING PROJECT>

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## **VISION DOCUMENT**

There are many music listening platform on the market. Spotify the largest of these platforms. Spotify is constantly growing and updating by making agreements with other companies. Songs of newly released singers can be upload to many platforms with different qualities, however Spotify is a corporate company and they have organized the music and their quality. Spotify restricts this to copyright only Spotify has a detailed search menu for songs but doesn't have much information about singers. This information is only superficial. Our project which we make, help to Spotify hold singers information. We can allow use together these information.

### **BUSINESS OPPORTUNITY**

This program will be used by two types of users according to our opinion.

Actors: Listener Producer Companies

Spotify attracts a lot of users. This layout needs innovations to be continuous. For this reason people can be used our information software. Listener can be reach more information about singers clearly and quickly. If there is movement, there must be music. Therefore companies are constantly seeking music. Companies should be able to reach the singer as well. These singer information are scattered. Our program collect together these information. Accompanied by this information, companies offer to listeners. These offers can be used commercial purpose. Such as movie, advertising, tv series etc. Our program helps to companies choices with their specification.

### **KEY HIGH LEVEL GOAL AND PROBLEMS OF THE STAKEHOLDER**

Our project domain is not only singers, but also a system that includes all other individuals. Such as football players, movie artists, politician etc. As result of having this information, control the big data for commercial purposes. We want to dominate the personal information market in the future stages of the projects. This information is too much and mixed. The accuracy will not be guaranteed.

### **SUMMARY OF THE BENEFITS**

Information which is related to singers scattered on the Internet. Users can access information quickly. This program helps producer companies to decide for their own projects.

### **ASSUMPTIONS AND DEPENDENCIES**

- Spotify provides information parts related to music.
- Wikipedia provides information parts related to singer personal data.

They are available on Internet for free and we expect it to continue this way.

## THE PROCEDURES OF USE CASE

### Step 1: Choose the System Boundary

For this case study, the API system itself is the system under software design; everything outside of it is outside the system boundary.

### Steps 2 and 3: Find Primary Actors and Goals

Actor:	Goal:
Listener	Get information Interest singers Get data for their curiosity
Producer	Company get information Satisfy the user's demands

### Step 4: Define Use Cases

In general, define one use case for each listener goal. Name the use case similar to the user goal for example, Goal: get information; Use Case: Music Marketing.

## DEFINING OF USE CASE NAMES

#### Use case UC1:

- Ask questions about artists

#### Use case UC2:

- Entering the question patterns from the interface.

#### Use case UC3:

- Get data from Internet

## **PRECONDITIONS**

### **UC1: Ask questions about artists**

1. Listener and company should not ask about the content of the albums. The program is not yet capable of rotating album information
2. The program cannot yet provide information about songs
3. Questions should be about artists and it should be able to ask the following questions
  - internet address of artist's information
  - the popularity of the artist
  - the number of followers that artist has
  - song types that artist sings
  - where the artist was born
  - age and date of birth of the artist
  - album's names of the artist, the number of albums in the database
    - i. The number of album should be maximum 50
    - ii. Album's names do not support the Turkish characters
  - The popularity order in Turkey
  - older and younger artist

### **UC2: Entering the question patterns from the interface.**

1. The user must fill in the necessary fields of the question type. If it is not filled, its input will be rejected and warned by red color.
2. The required amount of free space should be available where the data is saved.

### **UC3: Get data from Internet**

1. The user must fill in the necessary fields of the question type. If it is not filled, its input will be rejected and warned by red color.

## **FULLY DRESSED STYLE**

<b>Use case UC1:</b>	Ask questions about artists
<b>Scope:</b>	Information application with API
<b>Level:</b>	User goal
<b>Primary Actor:</b>	Listener

### **Stakeholders and Interests:**

#### **Listener:**

Wants to learn information, to obtain accurate information, to satisfy your curiosity and wants visible display and fast service with minimal effort

#### **Producer Company:**

Wants to learn information, to obtain accurate information, to satisfy listener's interests and wants fast service.

### **Success Guarantee (or Post conditions):**

The information which the user is looking for is accurately shown on the screen.

### **Main Success Scenario (or Basic Flow):**

1. The query panel is opened to the user.
2. The query panel shows the artists that are registered in the system.
3. User asks about artists.
4. The user's question is split to parts.
5. Parts are searched for matches.
6. Parts and data set are matched
7. The result is displayed

### **Extensions (or Alternative Flows):**

2. The data of artists that are registered in the system may be missing.
  - a. Missing information is expected to be filled by user
  - b. The data set can be accurately updated by system

### 3. Use of non-English character

- a. the error is displayed on the screen
  - i. User must be use English character
- b. The data set can be updated and Turkish character support can be provided.

### 5-6. Matching cannot be found

- a. The data set can be expanded
  - i. Users can fill data set
  - ii. The data set can be updated
- b. The number of matching are 2 and more than 2
  - i. Matches are displayed as alternative sorted ways

### 7. The result is empty

- a. User can add new registers
- b. The system can be expanded

## **Special Requirements:**

- Fast internet
- Fast PC
- User-friendly display
- Language internationalization on the text displayed

## **Technology and Data Variations List:**

- 1. The query panel is read by voice assistants.
- 3. The question can be entered as a voice
- 7. The result can be read out loud

## **Frequency of Occurrence:**

Could be nearly continuous.

## **Open Issues:**

- ✓ Who is the singer? Tell something about the singer
- ✓ How many followers does singer have?
- ✓ What is the type of the singer?

**Use case UC2:** Entering the question patterns from the interface.

**Scope:** Entering information application

**Level:** User goal

**Primary Actor:** User

**Stakeholders and Interests:**

**User:**

Wants to enter question pattern from the interface

Wants to see older data

Wants to update data in dataset

**Success Guarantee (or Post conditions):**

Process successful. New question pattern has been added to the system or has been updated. The system can answer the questions.

**Main Success Scenario (or Basic Flow):**

1. The query panel is opened to the user.
2. The sample pattern that the user can enter is shown
3. User enters a question pattern
4. The question pattern is saved to storage
5. The system can answer this question.

**Extensions (or Alternative Flows):**

- 2a. The pattern in the sample may not be understood by the user.
  - a. Sample can be written more clearly
- 2b. There may not be data that is suitable for the pattern in the sample that the user enters.
  - a. Change blank fields with null fields
  - b. System can wish blank fields must be filled
3. The data entered is not suitable for the question pattern
  - a. Error occurred
    - i. Data entered should be corrected

- b. Select appropriate data
- 4. Memory is full
  - a. Storage can be enlarged
  - b. The older data is deleted and new data is written

### **Special Requirements:**

- Words can be completed automatically
- User-friendly display
- Language internationalization on the text displayed

### **Technology and Data Variations List:**

1. User can enter data in written or verbal
2. Articles can be written in different colors
  - a. The required field can be written in red
3. User can enter data in written or verbal

### **Frequency of Occurrence:**

Could be nearly continuous.

### **Open Issues:**

- ✓ When (artistName) was born?
- ✓ Who is (artistName)?
- ✓ How many followers does (artistName) have?



**Use case UC3:** Get data from Internet

**Scope:** API application

**Level:** Subfunction

**Primary Actor:** Software

**Stakeholders and Interests:**

**Software:**

Wants to get information, to obtain accurate information, and wants visible display and fast service with minimal effort

**Success Guarantee (or Post conditions):**

The system gets JSON data and saves data to storage.

**Main Success Scenario (or Basic Flow):**

1. Data which is searched is selected
2. Search in specific addresses on the Internet
3. Found the matching API file
4. Received the required data
5. Data is processed

**Extensions (or Alternative Flows):**

1. Out of topic data was requested
  - a. Error occurred
    - i. Requested data about the topic
2. Cannot reach internet addresses
  - a. Redirect to the alternative addresses
  - b. Search in local storage
3. File is bad which is got from API
  - a. Send a report to server
    - i. Required an update
  - b. API file is updated

- i. Update process by user
  - c. Ignored bad files
- 4-5 . The older data is deleted and new data is written
- a. Delete non necessary ones
  - b. Fix the extra data
    - i. Fixed by User
    - ii. Fixed by System

### **Special Requirements:**

- Words can be completed automatically
- User-friendly display
- Language internationalization on the text displayed

### **Technology and Data Variations List:**

- 4. User can enter data in written or verbal
- 5. Articles can be written in different colors
  - a. The required field can be written in red
- 6. User can enter data in written or verbal

### **Frequency of Occurrence:**

Could be nearly continuous.

### **Open Issues:**

- ✓ When (artistName) was born?
- ✓ Who is (artistName)?
- ✓ How many followers does (artistName) have?



