ASSIGNMENT 2 FRONT SHEET

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Unit number and title	Unit 9: Software Development Life Cycle		
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Student declaration

I certify that the assignment submission is entirely my own work and I fully understand the consequences of plagiarism. I understand that making a false declaration is a form of malpractice.

Student's signature	tu

Grading grid

P5	P6	P7	M3	M4	M5	M6	D3	D4

❒ **Summative Feedback:**	❒ **Resubmission Feedback:**	
Grade:	**Assessor Signature:**	**Date:**
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Task 1 - Analysis

1. Identify the stakeholders, their roles and interests in the case study.

1.1. Identify Stakeholders

- This section looks at how to identify the people who are involved in the system under consideration, including both those who can contribute to the SSA and those who will be affected by it. This is important because it helps to locate people who can provide important information or insights and people who will be able to help to put any actions into practice. It also helps to ensure that the impact on different groups of people is considered.
- This activity focuses on identifying the stakeholders. It is related to the Engage stakeholders activity in the Manage phase of the SSA, which encourages the ongoing involvement in the SSA process of the stakeholders who have been identified. Identifying and involving stakeholders can be an iterative process. A stakeholder may be identified, who is then involved in the SSA process. Discussions with him or her may reveal a clearer view of the system and the people involved in it, which may then identify further stakeholders.

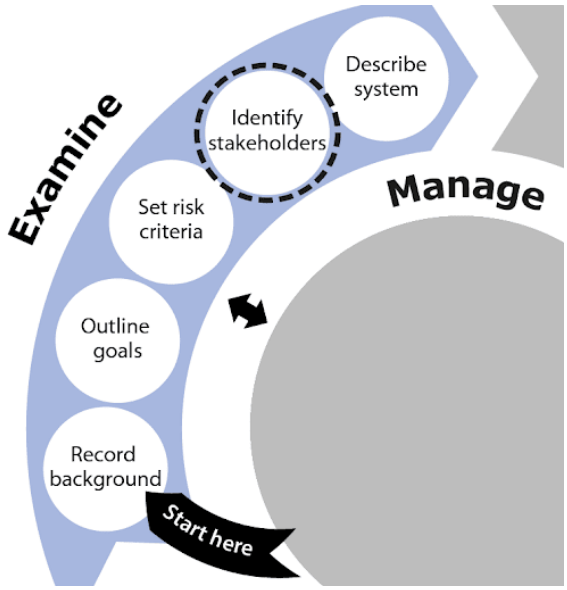

Figure 1

1.2. Their roles and interests in the case study

In the case study, below will be the stakeholders involved in the project and their roles and interests in the case study:

- ✓ **Customer:** Customers will approve the project's deliverables. Customers are actually stakeholders of a business; in that they are impacted by the quality of service/products and their value. In this project the Customer will be Tune Source (Music Company).
- ✓ **User:** Those searching, downloading or paying (customer of Tune Source, workers of Tune Source). They are looking, downloading, paying, and listening to music using the software platform. And here it is to make sure that the platform that the user uses has to be user-friendly such as (UX / UI).
- ✓ **Business Partner (Suppliers):** Business partners will have special business relationships and roles with the project such as implementation of installations, training or support. Suppliers sell and rely on goods and/or services to a company for the production of income and continuous revenue. In many industries, providers also have their health and safety on the line, as they can participate directly in the operations of the company. In this project, I will take on the role of an IT project manager (of a software company called ABC).

  Who is my partner here (ABC company partner)?
  - WordPress.
  - Azure from Microsoft (Cloud platform).
  - the SWA of the Amazon (Design, Develop, Deploy in cloud).
  - Payment system for the third party (APIs, MasterCard, VISA, Net Banking).
- ✓ **Governments:** Governments can also be considered as a major participant in a company, as they collect taxes both from the company and from all employees (payroll tax) and from other expenditure of the company (sales taxes). The overall Gross Domestic Product (GDP) to which firms are contributing benefits governments. In this project, of course we have to pay tax (tax will include at least 20% from Gross Profit). At the same time moderate parallel 2 jobs that is complying with government rules while doing business and implementing IT related projects.
- ✓ **Employees:** Employees will be part of the development team, including ABC Company and will have members from the client side.) Software Developer, Business Analyst, IT Manager and Top management that supports the development project.

2. Review the requirement definition of the project. Clearly indicate which stakeholder(s) provide what requirements.

2.1. What is RSR ?

The Reserve Rights token (RSR) is a cryptocurrency that helps to keep the Reserve token stable. Other assets owned by the Reserve smart contract to back the value of the Reserve token, similar to how the US government used to back the value of the US dollar with gold.

2.2. Identify the requirements for the project.

Sl.	Requirements	Responsible Stakeholder
1	Search for songs	Tune Source and users
2	Download songs and pay online	Users, 3rd party payment

		system
3	Purchase individual downloads at a fixed fee per download.	Users and Tune Source
4	Purchase music download gift cards.	Users and Tune Source, 3rd party payment system

3. Identify FRs and NFRs of Tune Source Project

3.1. What is FRs?

✓ A Functional Requirement (FR) is a description of the service that the software must offer. It describes a software system or its component. A function is nothing but inputs to the software system, its behavior, and outputs. It can be a calculation, data manipulation, business process, user interaction, or any other specific functionality which defines what function a system is likely to perform. Functional Requirements are also called Functional Specification.

✓ Functional Requirements: MUST HAVE (customer/user technical requirement). To be able to understand more, the following will be examples from the project :

- Search songs
- Listen songs online (samples songs)
- Download songs and pay online
- Buy gift cards
- Subscribe online and pay

3.2. What is NFRs?

✓ NON-FUNCTIONAL REQUIREMENT (NFR) specifies the quality attribute of a software system. They judge the software system based on Responsiveness, Usability, Security, Portability and other non-functional standards that are critical to the success of the software system.

✓ Nonfunctional Requirements (NFRs) define system attributes such as security, reliability, performance, maintainability, scalability, and usability. They serve as constraints or restrictions on the design of the system across the different backlogs.

✓ Non-Functional Requirements (Basically, related to quality): EXPECTED

- Speed of during search and download (faster, indexing)
- Scalability (Can Tune Source expands its platform in future). Or can it be integrated with some other 3rd party platform?
- Portability
- Is this platform user friendly (UX/UI)
- Secure payment

4. Discuss the relationships between the FRs and NFRs.

Parameters	Functional Requirement	Non-Functional Requirement
What it is?	Verb	Attributes
Requirement	It is compulsory	It is not compulsory
Capturing type	In the case of use it is captured.	It is recorded as an attribute of quality.
End result	Function of the product	Properties of the product
Capturing	Easy to capture	Hard to capture
Objective	Help you check the software's functionality.	Help you check the software's performance.
Are of focus	Focus on user requirement	Concentrates on the user's expectation.
Documentation	Describe what the product does	Describes how the product works
Type of Testing	Functional Testing like System, Integration, End to End, API testing, etc.	Non-Functional Testing like Performance, Stress, Usability, Security testing, etc.
Test Execution	Before the non-functional testing, test execution takes place.	Following functional testing
Product Info	Product Features	Product Properties

5. Discuss the technique(s) you would use to obtain the requirements (P6)

- ✓ **Joint Applicaton Development (JAD)** is a process that accelerates the design of information technology solutions. JAD uses customer involvement and group dynamics to accurately depict the user's view of the business need and to jointly develop a solution. Before the advent of JAD, requirements were identified by interviewing stakeholders individually. The ineffectiveness of this interviewing technique, which focused on individual input rather than group consensus, led to the development of the JAD approach.
- ✓ **Interview**: An interview is essentially a formal dialogue in which one person asks and addresses questions from the other. In most cases, the term "interview" refers to a one-on-one encounter between an interviewer and an interviewee. The interviewer inquires as to which of the interviewee's questions are answered. This material will be used or submitted

to other audiences right away or later. Many forms of interviews have this function – there may be no other audience present at the time of a work interview or a witness interview, but the responses are then supplied to others during the job or inquiry phase.

- ✓ **Observation**: Observation is the deliberate retrieval of data from a primary source. Observation makes use of a living being's senses. Data perception and recording can also be done with scientific instruments of research. Any data gathered during science research can be referred to. Only qualitative observations are possible, that is, if a numerical value is added to the observed phenomena.Only qualitative observations are possible; that is, if a numerical value is associated with the observed phenomena by counting or estimation, the property is either missing or present. An observer has the following responsibilities in the JAD process:
  - Watch and listen.
  - Learn about user needs and workshop decisions.
  - Interact with the participants and facilitator only during breaks or before and after sessions.
- Demonstrate how to collect requirements based on chosen technique
  - Apply these requirement gathering techniques with context to Tune Source
  - JAD, INTERVIEW
  - SRS document collect and note down the requirements

Task 2 –Analysis (2):

1. Analyse the requirements that you identified in Task 1 using a combination of structural and behavioural modelling techniques that you have learnt. (p6)

- ✓ Structural (or Static) view: emphasizes the static structure of the system using objects, attributes, operations and relationships. It includes class diagrams and composite structure diagrams
- ✓ Behavioral (or Dynamic) view: emphasizes the dynamic behavior of the system by showing collaborations among objects and changes to the internal states of objects. This view includes sequence diagrams, activity diagrams, and state machine diagrams

2. Scope: you only need to construct following items for the system. You will have to include:

- ➢ **Use Case Diagram for the whole system (Example)(P6)**

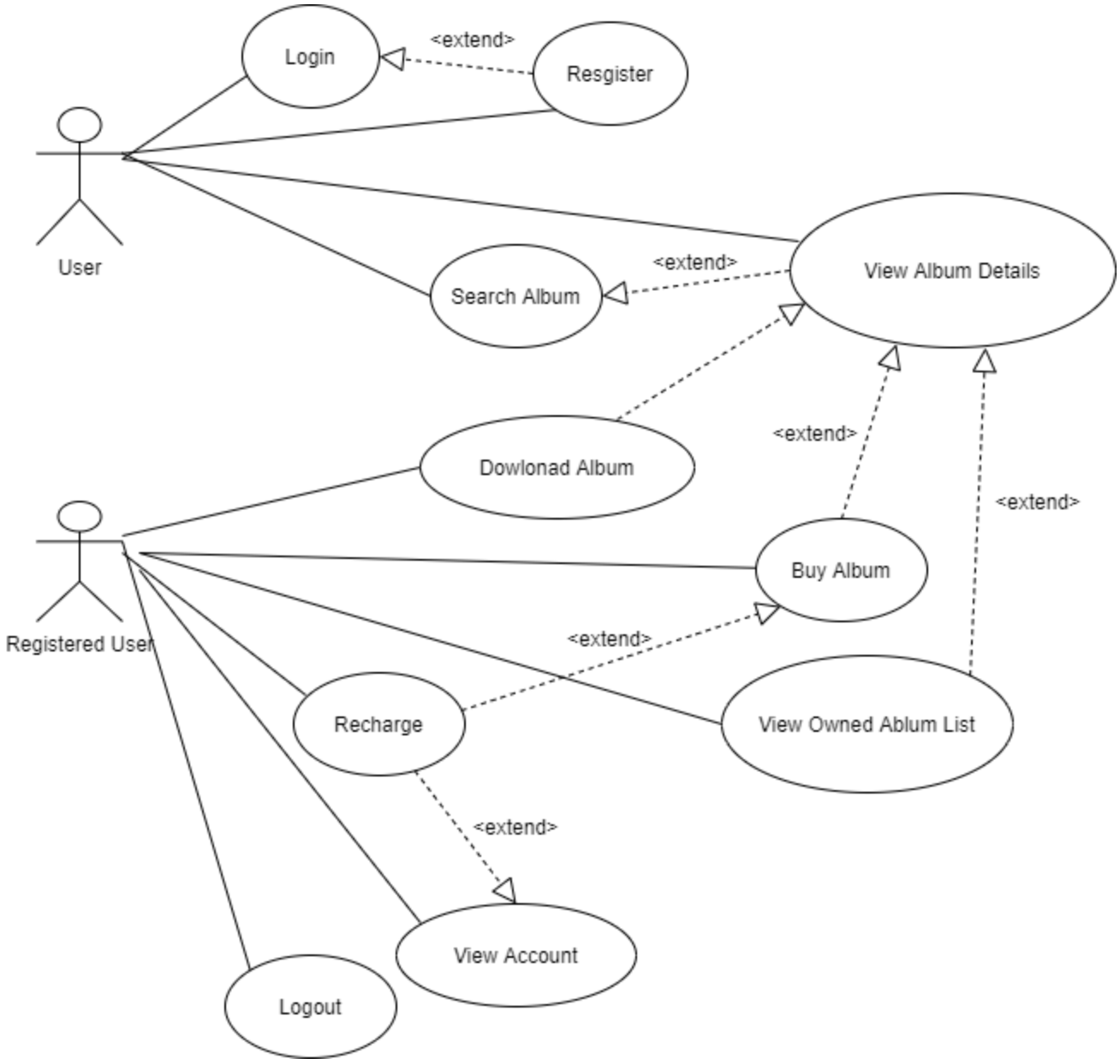

Figure 2

- **Explanation**: In the Use Case diagram will consist of 2 objects and each object will point to many entities. In which the User: User side can register extended to the Login, User can go to External Site, view person, in addition can View music album Detail and expand to View Latest News and View Recommendation. On the Register User side, Register User can log out, Comment, Rate Comment, View Account and Download music Album (View Account and Download music Album can be extended by Recharge), in addition Register User can Buy music Album (including Download music Album and Buy music Album can be extended to Search music album). Register when log out can become 1 User.

➢ **Use Case specification for 2 Use cases (Example)(p6)**

✓ A Use Case describes a task that is performed by an actor yielding a result of business value for a business. A use case may be visualized as a use case diagram or/and in structured textual specification format:

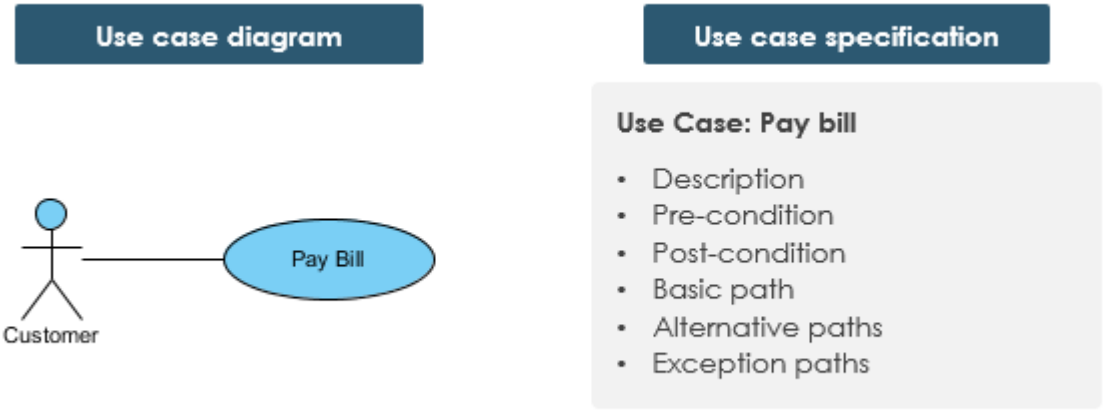

Figure 3

✓ Use Case (task - a customer want to perform) may be:

- Interactive - A system use case describes an actor's interaction with a system in pursuit of the defined business goal
- Manual - A sequence of actions performed by an actor
- Automated - A sequence of steps performed by a program or script

➢ **Context Diagram for the whole system (Example) (p6)**

- System context diagrams show a system, as a whole and its inputs and outputs from/to external factors. ... The objective of the system context diagram is to focus attention on external factors and events that should be considered in developing a complete set of systems requirements and constraints.

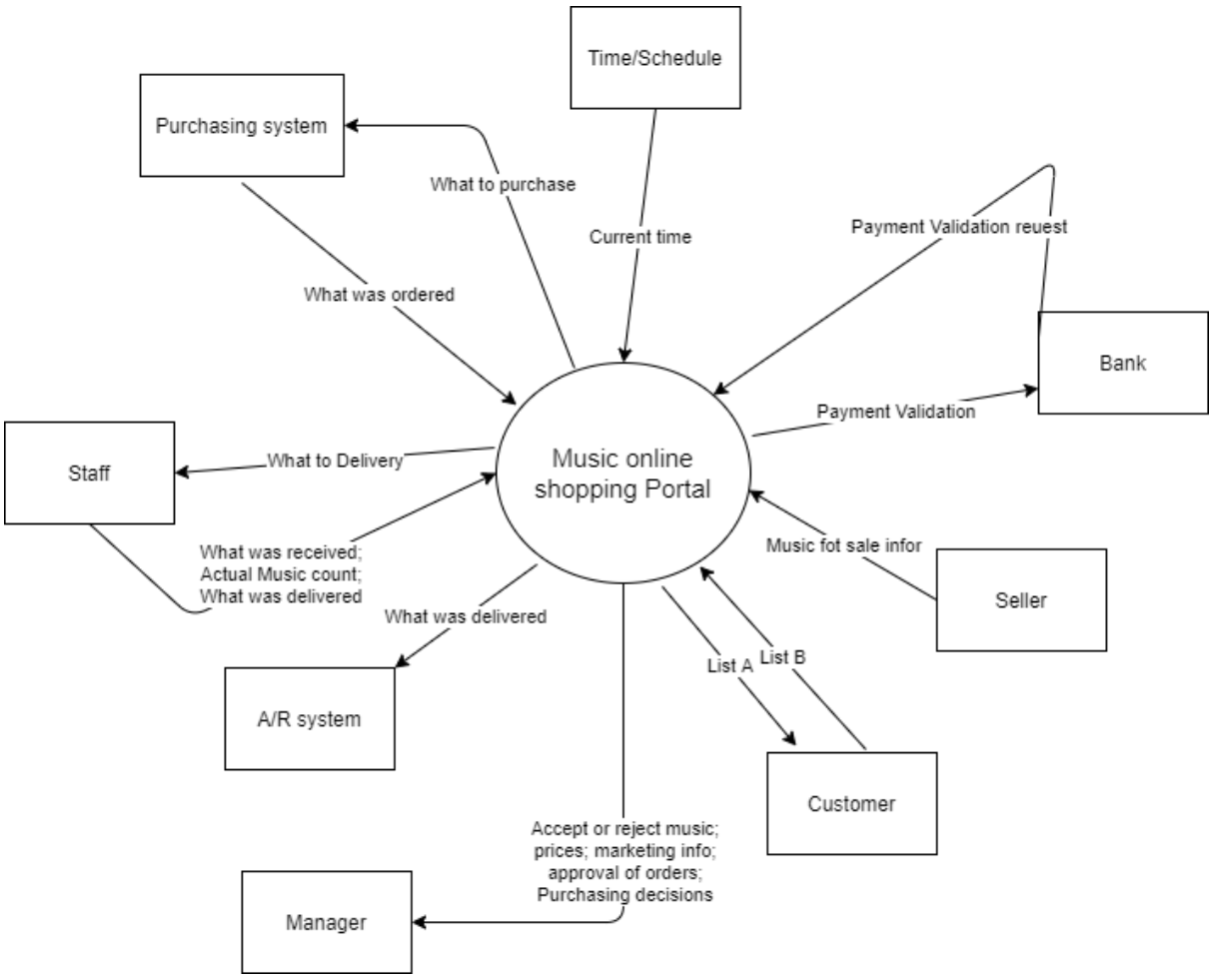

Figure 4

- **Explanation:** Explanation: In the context diagram of the entire system, we can see the bap diagram including Music Online Portal and entities, objects such as: Customers, Managers, Employees , Purchase System, Time / Schedule, Bank, Seller. In which, the Customer side will divide into 2 lists, including list A (Marketing information; approve or reject) and list B (Music search parameters; desired quantity, etc). The Manager will approve or reject the song, as well as the price, marketing details, order acceptance, and purchasing decisions, while Music Portal will submit sales reports to the manager. The Music Portal will supply what needs to be shipped to the staff, and the staff will then provide details back to the Music Portal, such as what was received; the exact volume of music; what was delivered.In terms of the purchasing system, the Music Portal will tell the purchasing system what to purchase, and the purchasing system will return the ordered items. In terms of time and date, the Music Portal would have a clear time and schedule. The Bank will send a request for Payment Verification for the Music Portal to the Bank., while the Music Portal will send the Payment Verification to the Bank. Following it is the

Seller, who will upload Music for Sale information to the Music Portal. Finally, the Music Portal can submit what has been delegated to System A / R (AR system means the Oracle account receivable system used by the system's founder, off-system credit system, or some alternate framework or system. some previous programs).

➢ **Data Flow Diagram – Level 0 for the whole system (Example)(p6)**

- Data flow diagrams graphically depict the flow of information in a business system. In a framework, the DFD explains how data is transmitted from input to file storage and report generation processes.
- Data flow diagrams can be divided into logical and physical categories. The abstract data flow diagram depicts the flow of data within a system in order to execute specific business functions. The physical data flow map depicts the implementation of the logical data flow.

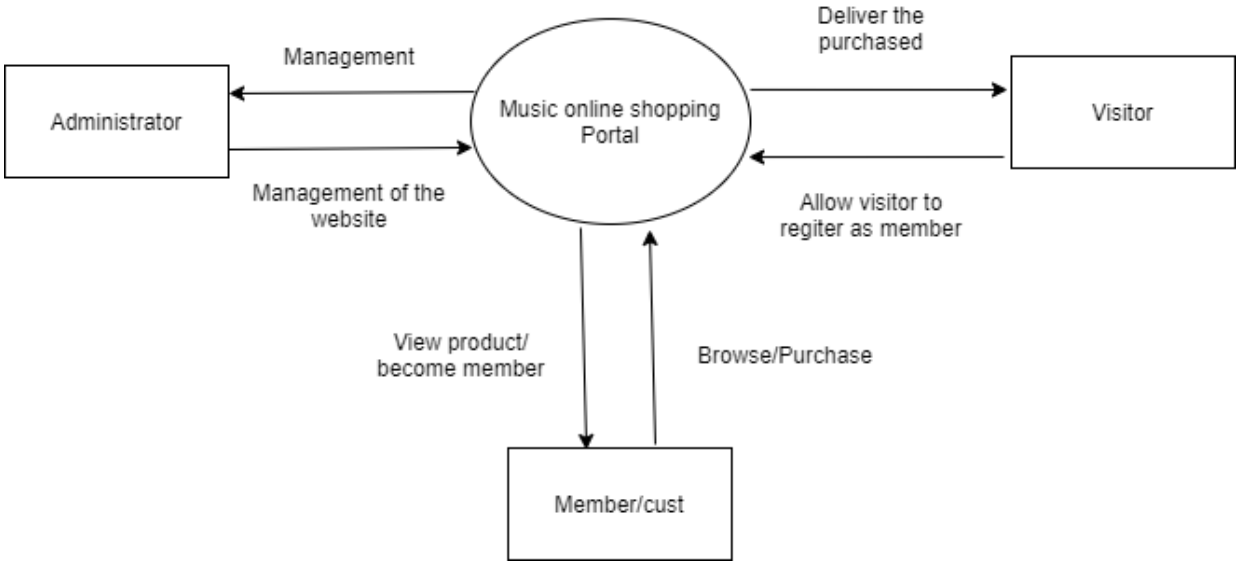

Figure 5

- **Explanation:** Three items will face a music port in the Data Flow diagram. In the visitor's side, the visitor is permitted to register in order to become a member; on the other hand, the home side is permitted to deliver the bought items to the visitor. You should Browse or Purchase the product on the Member / Customer side; otherwise, the home page will remember you as a member and you will be able to see the product.. On the Administrator side, the Admin can manage the website, whereas on the home page it will manage the reports provided by the Admin.

Task 3 – Design (P7)

Based on the analysis result, discuss how you would conduct the design phase:

Discuss how the user and software requirements are addressed in the design phase.

1. What is a Wireframe?

A wireframe is equivalent to the skeleton or simple structure of your website/app. Each one is used to describe the functionality of a product as well as relations between views (what will happen when you click a certain button).The decisions on what (content/features) and where to put on the website or app are usually made during this stage. This step does not cover the product's design.

- Wireframe (at least 5) design of the Tune Source project:

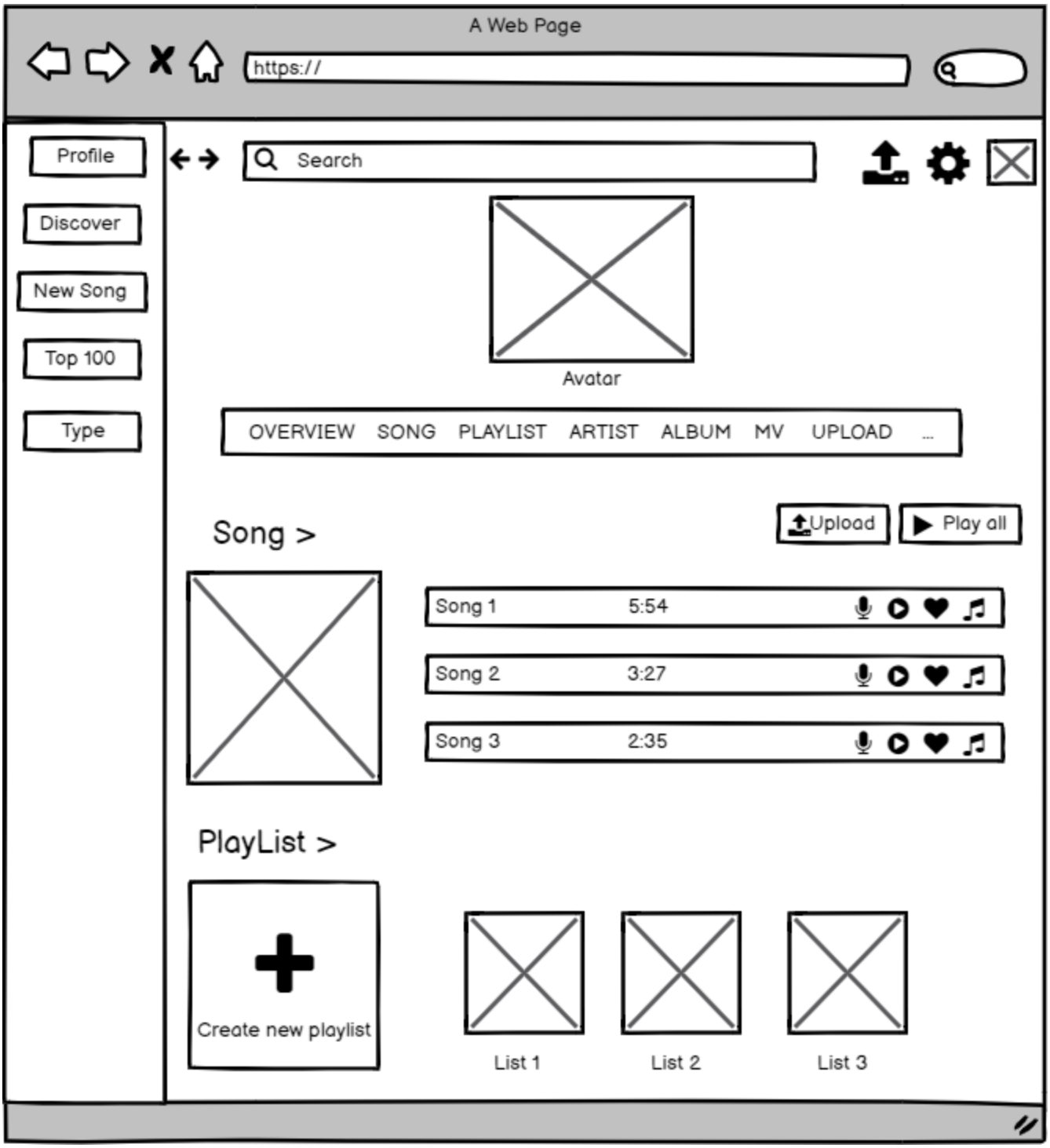

Figure 6: Profile

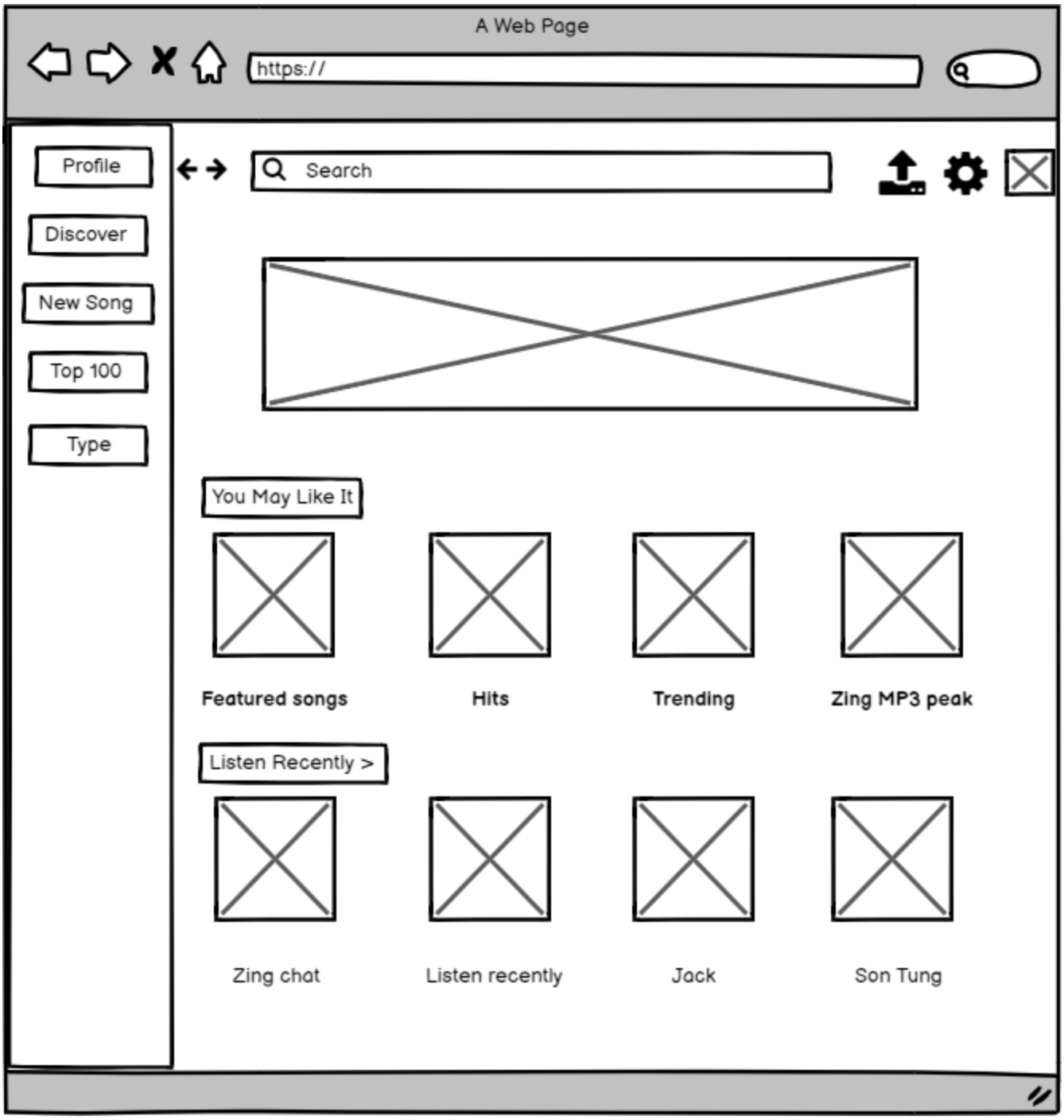

Figure 7: Discover

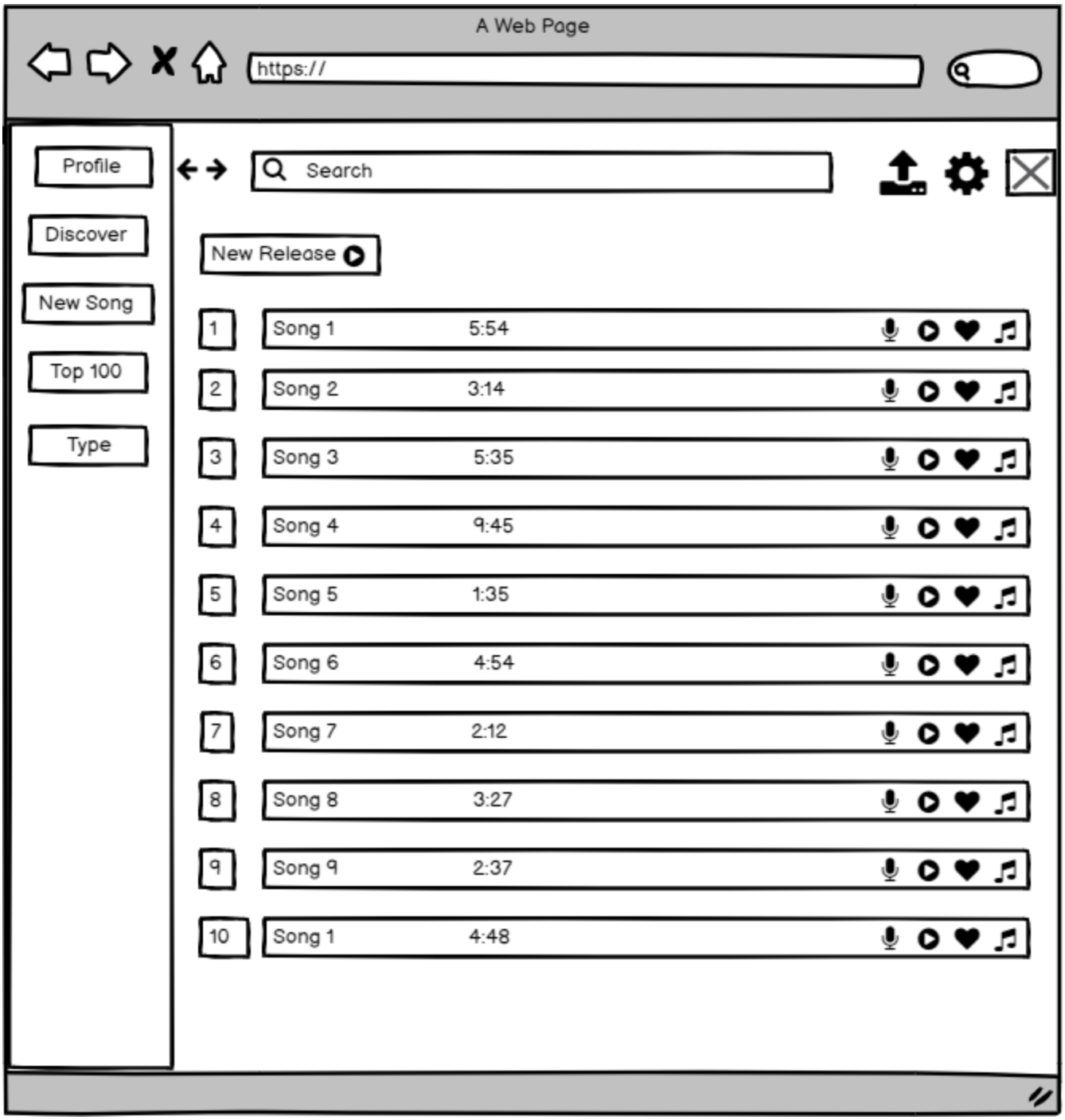

Figure 8: New Song

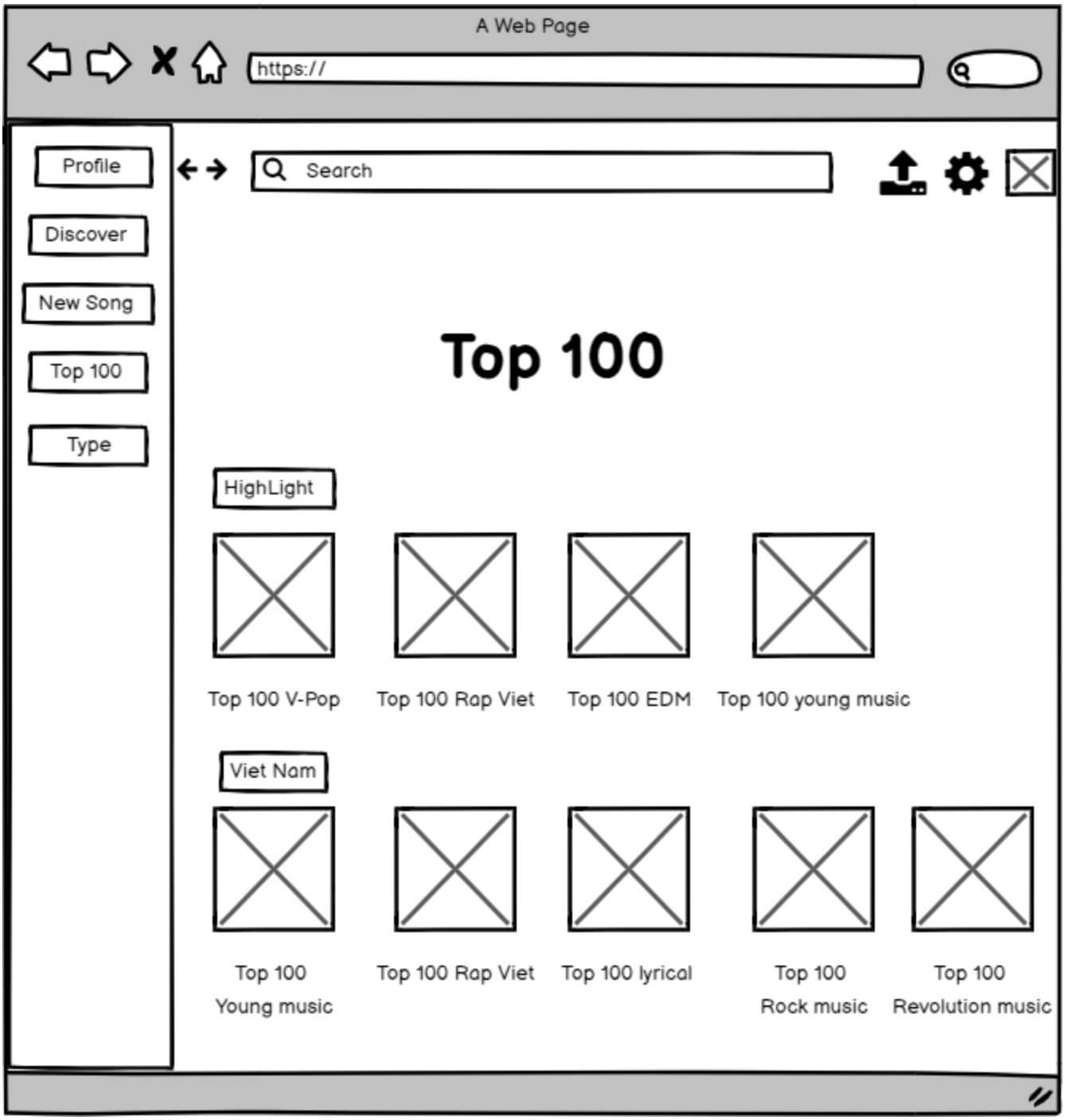

Figure 9 : Top 100

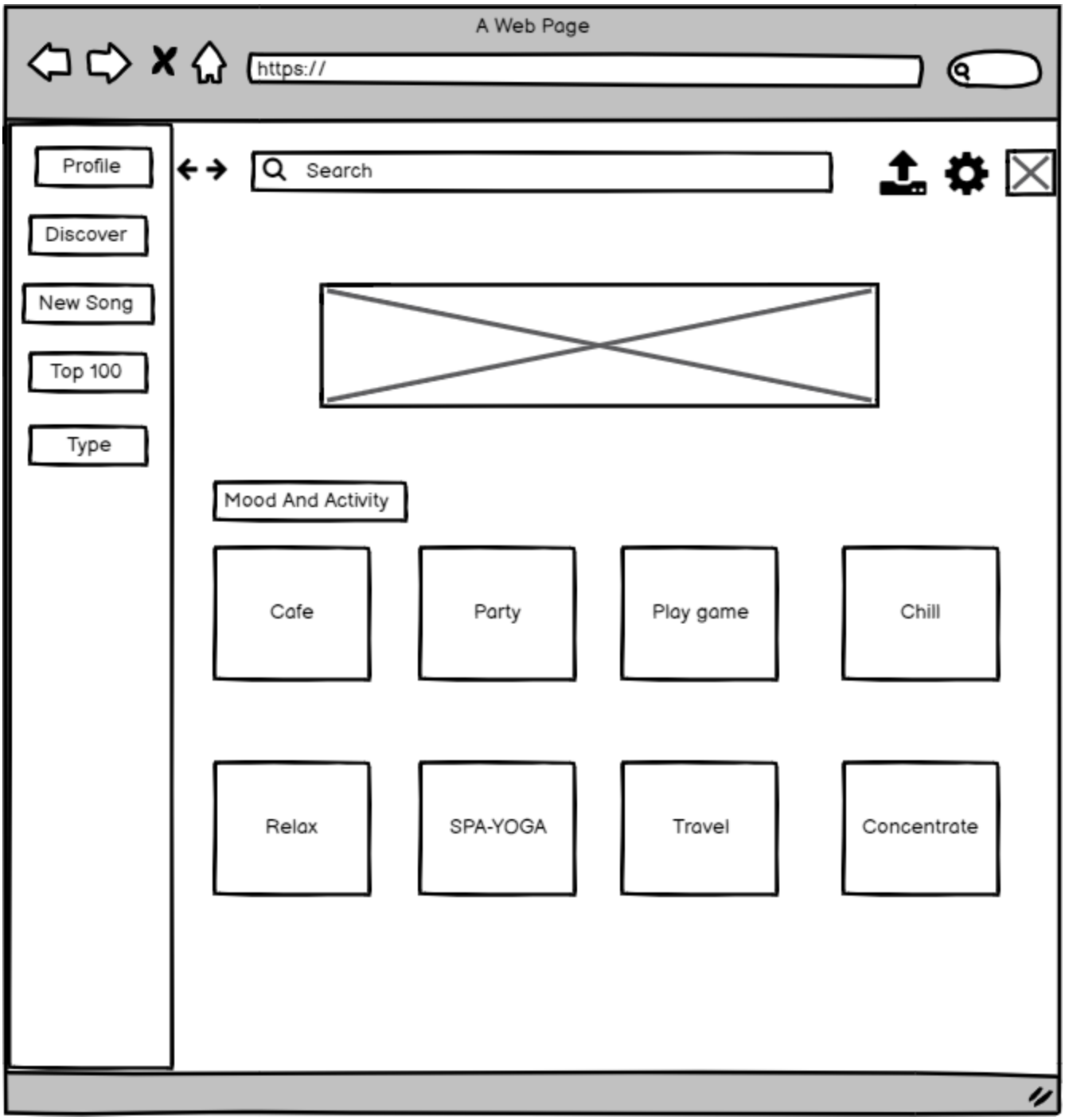

Figure 10: Type

- Wireframe and mockup tool:
  - ✓ For a complex, vector-based interface, use Sketch.
  - ✓ Beginner's guide to Adobe XD
  - ✓ Figma is a free alternative.
  - ✓ UXPin is a tool for passing concept documents to developers.

- ✓ For teamwork on a whiteboard-like canvas, use InVision Freehand.
- ✓ For accurate pixel-based wireframes, use Adobe Photoshop.
- ✓ Justinmind is a tool for creating immersive wireframes.
- ✓ Mockplus is a tool for managing large tasks.
- ✓ Balsamiq.cloud

➢ For this project, I will use balsamig.cloud to design the Wireframe for the Tune Source.

2. What is a Mockup?

Every mockup is a medium-fidelity depiction of the real thing. Colors, fonts, text, images, icons, and everything else can be added to the wireframe. As a consequence, you'll have a static program map. During this stage, consider user interface best practices. Simply outsource the wireframes if they can't be transferred to the next level.