SoundTrek© SRS Document

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Our Vision

In many people's lives, music is more than just a fleeting source of entertainment.

SoundTrek is for music-lovers who want to immerse themselves in the diversity of music and completely personalize the soundtrack of their own lives. Our app offers a uniquely customizable playlist experience that music-lovers can use to add fun, targeted musical queues and background tracks to their lives, and take that music on the go as it responds to what they do and the environment around them. Unlike other music streaming services like Spotify, our product will persist in people's lives and play not only songs they like, but songs that characterize them, the way they feel, and the actions they take.

Walk with us, on your very own SoundTrek...

Our Target Group	**The needs we address**	**Our Product**	**Our Business Goals**
Younger music-lovers who wish to have varied music on the go that requires minimal interference.	Removes the need to spend time choosing which playlist to listen to. Introduces more dynamic music for a more dynamic life.	Our product is the only application that allows the user's music to change based on predetermined events instead of simple static lists.	Market music based on location and allow local bands to broadcast their music in a large area around them.

User Stories

As a student, I want to select music for different campus buildings in order to get me in the mood for different classes

As a Historian, I want to hear traditional music as I enter a museum so that I feel immersed.

As an Office Worker, I want instrumental music to play in my cubicle and music with lyrics to play when I walk out so that I can effortlessly switch to and from "work mode".

As a busy person, I want my music to automatically cycle through my playlists as time passes so that I have control of what I am listening to without ever taking my phone out.

As a road trip traveler, I want to have a specific song(s) play when I enter a destination so that I have dynamic musical queues that get me excited for new places.

As a user who is listening to music on the app, I want my playlists to switch within 10 seconds of the event trigger so that what's playing is accurate and not misleading.

As someone who can't afford to replace my phone very often I want to make sure this app runs as well as it can as long as I keep using my phone.

As a person who walks everywhere I go, I want specific music to begin playing while it's raining outside so that I know without ever going out of my way to check whether I need an umbrella or not.

As someone with a wide variety of music, I want to be able to organize my music into separate playlists easily accessible from one app.

As a festive person, all day during Halloween I want my creepy music playlist to play so that I know I will stay in the spooky mood.

As a frequent commuter, I would like for there to be a sorted view of my events so that I can manage a wide variety of events for my long commute to and from work.

As a user who is listening to music with the app, I would like it to display the currently playing song so that I know what I am listening to.

As someone new to the app, I want to be able to easily create a new event, without going through a complicated process.

Functional Requirements

Item	R1 Play Music Locally
Summary	The app plays music from its own database.
Rational	The app should play music internally in order to prevent users from moving to a different app.
Users	All Users
Preconditions	• User has at least one playlist • User is logged in.
Basic Course of Events	• User presses the play button • App compares events to current scenario • Plays Music

Item	R2 Event Triggers
Summary	The app creates relationships between user-created events and the user-assigned playlists associated with them. When event conditions are met, the associated playlist is triggered to play.
Rational	When event conditions are met, the user should be able to listen to music from the user's associated playlist
Users	All Users
Preconditions	• User has created an event • App has access to the internet • App has access to the system time, date, and location
Basic Course of Events	• App checks system conditions for user location, time, and date • App uses location to check local weather • System conditions are compared to event conditions • Highest priority event with trigger conditions that match current system conditions is triggered • Playlist associated with triggered event is set to play

Item	R3.0 Location-based Event Creation
Summary	Users can create location-based events.
Rational	The user's location should be an optional trigger for events.
Users	All Users
Preconditions	• User has at least one playlist • User is logged in.
Basic Course of Events	• User creates an event and adds a location flag to it. • User's location enters a user-defined radius of the location • App will switch to the playlist or track defined by the user
References	R2

Item	R3.1 Time-based Event Creation
Summary	Users can schedule time-based events.
Rational	The time of day should be an optional trigger for events.
Users	All Users
Preconditions	• User is logged in • User has at least one playlist • User has at least one time based Event flag
Basic Course of Events	• The device clock reaches a flagged time • App compares flagged time to playlist events • App plays playlist with correct time event
References	R2

Item	R3.2 Weather-based Event Creation
Summary	Users can create weather-based events.
Rational	The weather should be an optional trigger for events.
Users	All Users
Preconditions	• User is logged in • User has at least one playlist with a weather based trigger
Basic Course of Events	• The device's weather data reaches a flagged weather • App compares flagged weather to playlist events • App plays playlist with correct weather event
References	R2

Item	R3.3 Calendar-based Event Creation
Summary	Users can schedule calendar-based events.
Rational	A specific date should be an optional trigger for events.
Users	All Users
Preconditions	• User is logged in • User has at least one playlist with a calendar based trigger
Basic Course of Events	• User calendar reaches a flagged calendar event • App compares flagged calendar events to playlist event triggers • App plays a playlist with the correct calendar event trigger.
References	R2

Item	R4.0 Playlist Creation
Summary	Users can sort the music they choose into separate, labeled playlists.
Rational	The app should function as a place where users can separate their music into distinct playlists.
Users	All Users
Preconditions	• User is logged in
Basic Course of Events	• User clicks "+ create playlist" • User can rename playlist • User is able to pick songs from the library of music to add to their playlist • User saves or cancels creation
References	R1

Item	R4.1 Manual Playlist Curation
Summary	Users can manually edit/delete their playlist from the app
Rational	Users should have the ability to go back and add/delete songs from playlists, rename playlists, and delete playlists entirely.
Users	All Users
Preconditions	• User is logged in • User has at least one playlist • User enters edit mode for playlist
Basic Course of Events	• User can adds songs by searching the song database • User can remove songs by pressing "trash" icon • User can change order of songs in the playlist
References	R4.0

Item	R5 Default Playlist Selection
Summary	Users will select a playlist/playlists that will play by default when they are under any circumstance in which no event is currently triggered.
Rational	Even without the user setting up events, they should be able to utilize the basic app function of listening to music from their playlist(s).
Users	All users
Preconditions	• User is logged in • User has at least one playlist
Basic Course of Events	• The User opens the settings menu • The User checks the "default playlist" box • The User can only have one default playlist
References	R4.0, R4.1

Item	R6 Background Running
Summary	App runs in the background of the device while the user maintains the ability to multitask/use other apps.
Rational	Generally, music-listening is something users do alongside other tasks and not as a sole activity. Also, by nature of the app, music-listening should be constant and not require user monitoring or consistent app interaction.
Users	All Users
Preconditions	• User is logged in • User has at least one playlist • User has pressed the "Play" button
Basic Course of Events	• User minimizes the app • App continues to play music through
References	R1

Item	R7 Playlist Looping
Summary	Playlists can be set to either loop as long as the associated event trigger is active or end once the final playlist item finishes depending on the user's chosen setting.
Rational	The listening experience should be customizable and accommodating.
Users	All Users
Preconditions	• User is logged in. • User has at least one playlist • User is playing a playlist
Basic Course of Events	• User activates looping by pressing "loop button" • Once queue filled with playlist is empty, start playing the playlist from the beginning • Loop only ends when the play button is pressed again.
References	R1

Item	R8.0 Playlist Transitions
Summary	Once an event has been triggered, the currently playing playlist(s) will switch to the event-associated playlist(s) by one of the following processes • Within 10 seconds • After the current song finishes playing depending on the user chosen setting.
Rational	Users can decide whether they believe the accuracy of the currently-playing playlist or having less abrupt playlist transitions is more important; allows further customization
Users	All Users
Preconditions	• User is logged in • User has at least two playlists • User enters
Basic Course of Events	• User has an event activate • App applies user transition preference • Triggered playlist begins playing
References	R1, R2, R3.0, R3.1, R3.2, R3.3, R5

Item	R9 Song Display
Summary	The currently-playing song will always remain visible in a banner located on the home screen of the app.
Rational	Viewing the currently-playing song should be easily accessible.
Users	--
Preconditions	• User is logged in • User activates an event • User has a song playing
Basic Course of Events	• Banner on the bottom of the app displays song name and artist.
References	R1

Item	R10.0 Event View
Summary	The app has an event view tab that displays all user-created events sorted by event type.
Rational	The user should be able to quickly view all of the events that they have created and are currently active in the app.
Users	All Users
Preconditions	• User is logged in. • User has at least one playlist • User enters settings menu • User enters editing mode for a playlist
Basic Course of Events	• App displays screen detailing all set event triggers to user
References	R2, R3.0, R3.1, R3.2, R3.3

Item	R10.1 Event Curation
Summary	Users can edit/delete their events from the app.
Rational	Users should have the ability to go back and change the event conditions, change the associated playlists, rename the events, and delete events entirely.
Users	All Users
Preconditions	• User is logged in • User has at least one playlist • User has at least one event trigger
Basic Course of Events	• User enters Playlist settings menu • User enters Event setting menu • User can re-enter triggers for event • User can modify trigger requirements by pressing requirement details and re-entering a parameter • User can delete event by pressing "delete event" button
References	R2, R3.0, R3.1, R3.2, R3.3

Item	R11 Event-type Priorities
Summary	In the case of more than one event trigger requirement being active at once, the system chooses the event with the highest priority based on the user's settings.
Rational	Eliminates playlist selection conflict while allowing the user further customization options.
Users	All Users
Preconditions	• User has at least one playlist • User is logged in.
Basic Course of Events	• App detects an event trigger • Compares event priority to current event priority 9 • New Playlist plays if priority is greater • Current Playlist continues if priority is greater
References	R2, R3.0, R3.1, R3.2, R3.3

Item	R12 Minimum Performance Cost
Summary	The app caches at most 50mb of data and consumes under 10% of device processing power on a device.
Rational	This app is intended to be run in the background, and as a result needs to not be a detriment to other apps
Users	All Users
Preconditions	• User is logged in. • User is running a playlist • User is running app in the background
Basic Course of Events	• App only runs features needed to continue on current playlist and switch when another playlist is needed
References	R6

Item	R13 Weather API
Summary	An external API to handle getting weather based on a user's current location
Rational	One of the key event triggers for playlist items in our app is a change in the weather. Knowledge of current weather conditions is required to make the weather a trigger for an event.
Users	All Users
Preconditions	• User is logged in • User has a weather event based playlist
Basic Course of Events	• App accesses a weather API • App detects a change in weather • App changes playlist if the event trigger is a high priority
References	8, 3.2, 2, 3.0

Non-Functional Requirements

Item	**NF-1: Privacy Restraints for accessing location.**
Summary	Users must give the app permission to access their location with a privacy level they view as acceptable. The user's pinpoint mobile device location will remain anonymous
Rational	Although the app relies on user location, the user's pinpoint location must be hidden to ensure safety from exposure.
Requirements	• User's pinpoint location is not shared with third parties without the user's permission.
References	R3

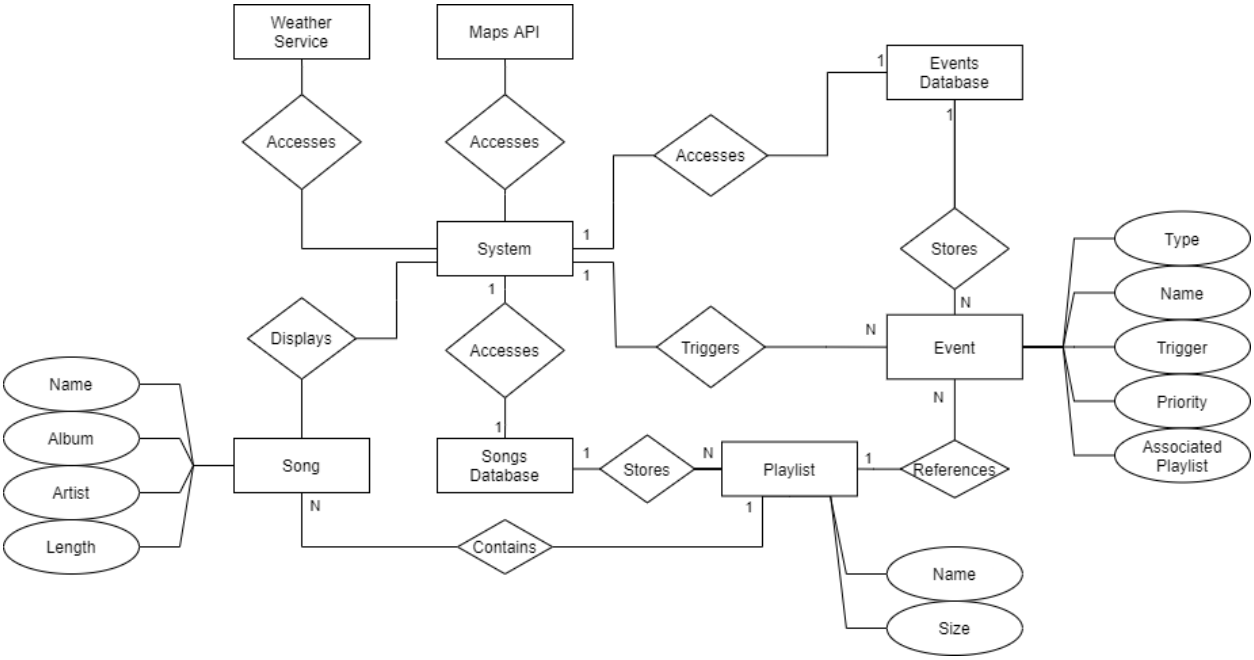
Item	**NF-2: Usability**
Summary	Users must be able to use the basic features of the app quickly and without needing to read documentation
Rational	Interfaces being usable without studying any documentation helps alleviate end users' confusion when first using the app and helps keep the users from dropping the app out of frustration.
Requirements	• Easy to read UI with elements clearly stating or showing their purpose/function • Current song always being displayed with playback controls accessible directly • Playlists should be editable within 2 taps and without extraneous menus • Map should be accessible from the default menu
References	R4, R4.1, R9

Item	**NF-3: Cross Platform Support**
Summary	The app must be able to run as many mobile phones as possible regarding the device model or how old it is.
Rational	The majority of users should have the accessibility and the chance of being able to use the app without any concerns about lag, crashes, or device changes.
Requirements	• Data storage should be under 500 MB • Cache should be limited to 50 MB
References	R12, R6

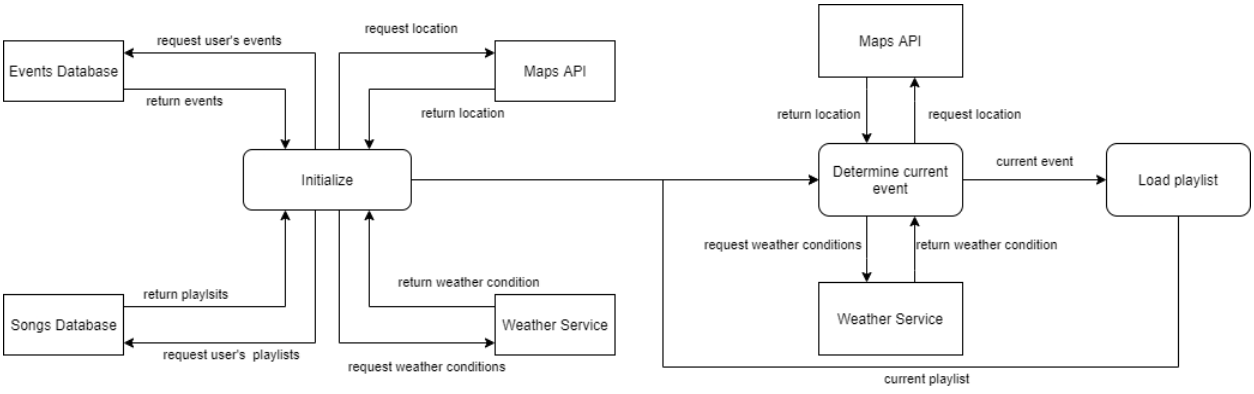
Item	**NF-4: Customizability**
Summary	Users should have the ability to configure nearly every aspect of their soundtrek.
Rational	To ensure that the app does not simply become a radio station that automatically selects songs, the users should have the ability to customize their playlists and events as much as possible.
Requirements	• The ability to change flag types in an event • The ability to change the number of flags in an event • The ability to change individual songs in a playlist • The ability to switch playlists selected for events
References	R3.0, R3.1, R3.2, R4.0, R4.1, R5

Models

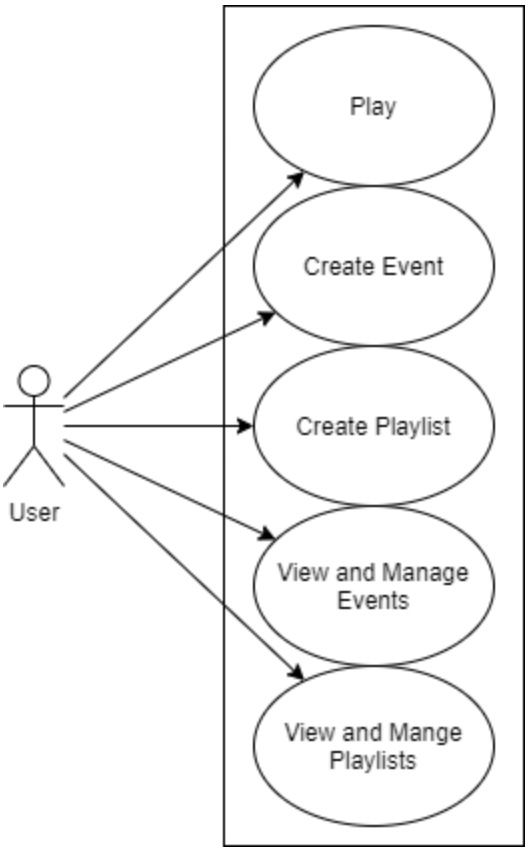
Entity Relationships



Data Flow



Use Cases



Statements of Contribution

Kalob - Non-functional requirements (NF-4), ER Model, Use Case Diagram, Data Flow Diagram, Preliminary Logo design

Martin - I worked on the formatting of the document, helped brainstorm the user stories, and wrote multiple preconditions and "basic course of events".

Lukas - Non-functional requirement (NF-2), Assisted in creation of logo, User stories (brainstorming & revising)

Gareth - Original app concept, functional requirements (concepting editing and creation), assisted with vision statement and revised non functional requirements

LaSean - User stories (brainstorming & writing), functional reqs. (name, summary, and rationale contributions), logo drawing, vision statement writing

Jesse - Non-functional requirements (NF-1 and NF-3), helped with diagram revisions, and helped with brainstorming for user stories