

# REM STUDIO Concept Document



Epic	S2SAAP-1 Pulsating Massage Library
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- 1- Concept & Vision
  - Introduction
  - Purpose & Goals
  - Core Features
  - Target Audience
  - Vision & Future Enhancements
- 2- UI Mockup
  - Main Dashboard
  - New Project Creation Window
    - Section A: Basic Project Information
    - Section B: Massage Pattern Parameters
    - Section C: Default Pattern Settings
    - Section E: Preset & Import Options
  - Pattern Editor Screen
  - Simulation Screen

## 1- Concept & Vision

### Introduction

REM Studio is an application designed to enable users to **create**, **customize**, and **simulate** custom massage patterns. At its core, the application leverages a pulsating library that provides precise control over massage parameters such as intensity, pulse frequency, duration, and modulation.

The goal is to offer an intuitive, powerful platform for designing massage patterns suitable for OEMs, researchers, therapists, and end users.

## Purpose & Goals

- **Empower Creativity:** Allow users to design and experiment with multi-step message sequences using an intuitive interface.
- **Enhanced Customization:** Provide detailed control over parameters.
- **Real-Time Simulation:** Enable live visualization of the message pattern, helping users immediately see the impact of their adjustments.
- **Seamless Integration:** Export patterns in formats (e.g., JSON/XML f, binary ..) and allow import of existing patterns for further refinement.

## Core Features

- **Multi-Step Pattern Editor:** Create and edit complex message sequences with configurable steps.
- **Graphical Timeline Editor:** Visualize message patterns in a timeline view, similar to audio waveform editors.
- **Preset Templates:** Start with pre-configured message patterns that can be customized.
- **Advanced Control Options:** Provide detailed control over parameters, and configure zone-specific patterns.
- **Real-Time Preview & Simulation:** See live updates and simulate message effects on a virtual seat model.
- **Import/Export Functionality:** Save and load patterns in various file formats, facilitating integration with external systems and embedded devices.

## Target Audience

- **OEMs**
- **Therapists & Wellness Professionals:** To create personalized message programs.
- **End Users:** For integrating custom message patterns into their vehicles.
- **Researchers:** Studying the effects and optimization of message therapies.

## Vision & Future Enhancements

- **Direct Seat Connectivity & Live Testing:**
  - **Enhancement:** Enable direct connectivity to a compatible message seat, allowing users to live-test and refine message patterns in real time.
  - **Benefit:** Provides immediate feedback and calibration, streamlining the development process.
- **New Project Initialization from Existing Seats:**
  - **Enhancement:** Allow users to start a new project by selecting an existing seat model (e.g., Tesla seat, Ford seat) as a base configuration.
  - **Benefit:** Tailors the message patterns to the physical characteristics of specific seats, improving accuracy and performance.
- **Marketplace for Message Patterns:**
  - **Enhancement:** Create a built-in store where users can publish, share, and sell their custom message patterns.
  - **Benefit:** Fosters a community of designers and provides a revenue opportunity for creators.
- **OEM-Specific Message Library Generation:**
  - **Enhancement:** Implement a feature for generating dedicated message libraries based on OEM configurations.
  - **Benefit:** Offers tailored solutions for manufacturers by automatically generating the message library.
- **Vibe Integration:**
  - **Enhancement:** Integrate support for vibration patterns to complement the message routines.
  - **Benefit:** Enhances the overall user experience by adding a dynamic dimension to the message effects.
- **Music Integration:**
  - **Enhancement:** Add functionality to synchronize message patterns with music, creating an immersive multisensory experience.
  - **Benefit:** Allows users to experience a harmonious blend of sound and touch, potentially improving relaxation and therapeutic outcomes.

- **Cabin Light Synchronization:**
  - **Enhancement:** Introduce control over cabin lighting to synchronize light patterns with the massage.
  - **Benefit:** Offers a unique, immersive experience by integrating visual ambiance with tactile stimulation, enhancing mood and relaxation.

## 2- UI Mockup [↗](#)

### Main Dashboard [↗](#)

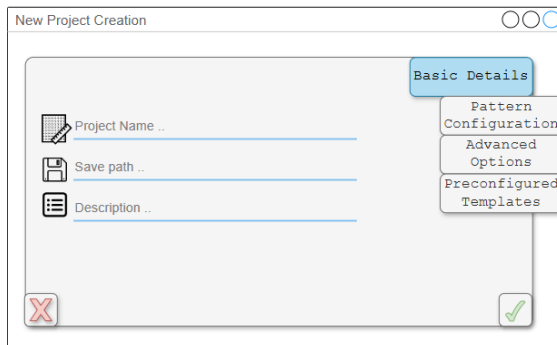
- Central hub for launching new projects, accessing recent projects, and navigating to the pattern editor.



### New Project Creation Window [↗](#)

Define your massage pattern project by specifying core parameters and settings.

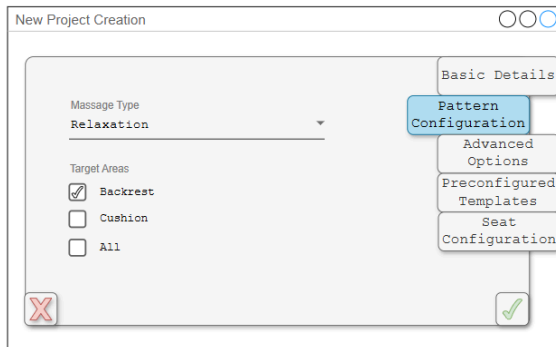
#### Section A: Basic Project Information [↗](#)



- **Project Name:**
  - *Input Field:* [ \_\_\_\_\_ ]
- **Save Path:**
  - *Input Field:* [ \_\_\_\_\_ ]
  - *Browse Button:* (Browse...)
- **Project Description:**
  - *Multiline Text Area:* [ Write a brief description here... ]

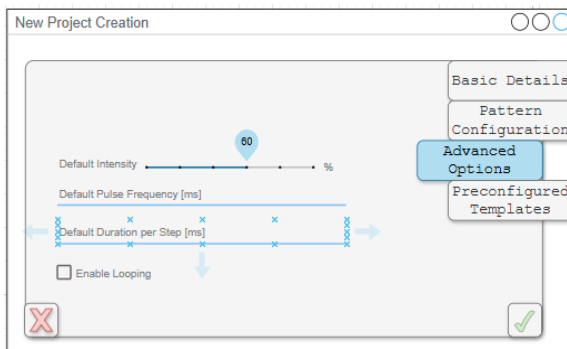
#### Section B: Massage Pattern Parameters [↗](#)

- **Message Type:**
  - *Dropdown Menu:* Relaxation, Deep Tissue, Sports Recovery, Custom
- **Target Areas:**



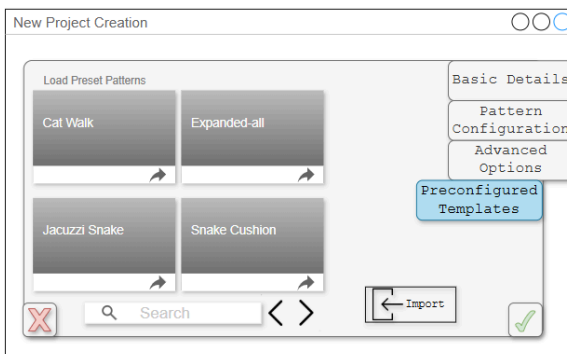
- **Checkbox Options:**
  - Backrest
  - Upper Back
  - Lower Back
  - Cushion
  - Lumbar
  - Full

## Section C: Default Pattern Settings [↗](#)



- **Default Intensity (%):**
  - *Slider:* 0–100% (default at 50%)
- **Default Pulse Frequency (Hz):**
  - *Numeric Input:* [ 30 ]
- **Default Duration per Step (ms):**
  - *Numeric Input:* [ 1000 ]
- **Enable Looping:**
  - *Toggle Switch:* [ ON | OFF ]

## Section E: Preset & Import Options [↗](#)



- **Load Preset Patterns:**
  - *Dropdown/List:* [ Select a preset ]
- **Import from Existing File:**
  - *Button:* (Import)

## Pattern Editor Screen [↗](#)

- Step-based editor for arranging and editing message steps.

