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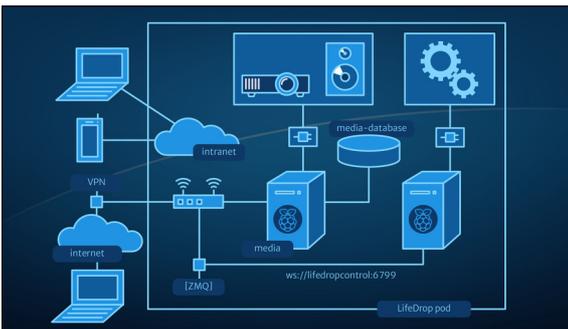


Lukas Schiltknecht

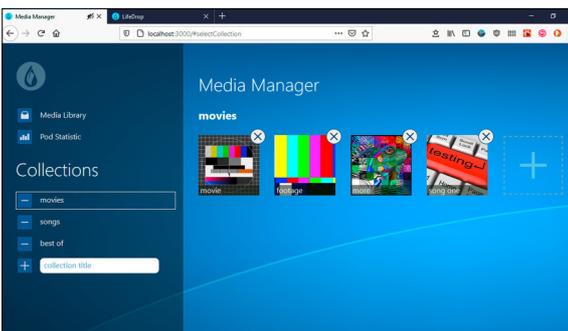
LifeDrop Media Manager



LifeDrop Pod
LifeDrop GmbH, <https://life-drop.ch/contact/>



System Overview
Own presentation



Media Manager Front-End
Own presentation

Introduction: The LifeDrop pod is a device, that provides a refuge from stress for people in crowded areas. It is a comfortable chair encased in a hooded compartment, that shields the user from visible and partly audible external influences. This creates a relaxing environment detached from the stressful outside world.

To help a person letting go of their current thought process the pod offers a media library with movies and songs, that can be played. This creates a small bubble of peace in otherwise hectic surroundings like an airport, a train-station, a sky scraper or other places with few possibilities to retreat.

Management of the media files currently requires a technician to upload and register them in the software manually. The goal of this project is to provide an accessible and user-friendly interface for managing all media files on a LifeDrop, which does not require in-depth technical expertise of the system.

Approach / Technology: In the pod two connected Raspberry Pi computers are responsible for media playback on the projector and the speakers. Communication between the various components is established through common message queues. One Raspberry Pi controls all motors in the pod and the other is responsible for storing all the media files.

The media manager, our end product, is used to manage the video and audio files on the media Raspberry Pi. The frontend of the management interface is implemented as a React web application that relies on the Express web framework in the backend.

To keep the technology stack simple and prevent unnecessary overhead and complication a MongoDB using Mongoose schemas is used to persist the meta data of the media entries. The key criteria for choosing this technology was flexibility in designing the schemas rather than performance.

Result: We realized an intuitive media management user interface with an appealing design as well as a replacement of the existing media control interface in the LifeDrop.

With the media manager, it is possible to easily upload video and audio files and compile them into multi-media collections. Every entry in such a media collection consists of a title, a description and a thumbnail. Multiple collections can be composed into appealing libraries of media files to customize a LifeDrop according to a customer's needs.

Furthermore, a statistics page provides insights into what media is actually watched inside the pod by its users.