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EUMEL DJ Party Suite

Open source on [github](#)

User documentation at [EUMEL Suite](#)

Goal is learning new things

And it solves my party music problem.

Overview

- Music app for partys
- App plays random songs
- Guests can "vote" for songs
- DJ will prefer voted songs.

User's Interface

- Desktop app as music player
- Mobile app for guests (iPhone, Android, UWP)
- Qrcode-based login.

Features for guests

- Login using a qrcode
- Can view playlist
- Can up-vote for available songs
- Can send/receive chat messages
- "Admin" guests can control player.

WPF desktop app features

- Use iTunes library as song provider
- Select available songs based on iTunes playlist
- Show player and song info
- Show chat messages to all guests.

Demo.

Primary Technologies

- WPF-based desktop app
- Xamarin-based client
- [ASP.NET](#) core-based REST backend
- Syslog logging server.

Secondary Technologies

- Caliburn.Micro for MVVM in WPF
- TinyMessageBus for server-server communication
- SignalR for server-client communication
- QRCoder and ZXing for qrcode token "login"
- Serilog as logging backend provider
- StructureMap for dependency injection on server.

Implementation details.

TinyMessageBus Overview

- Message bus for communication between components
- `Hub` is a context for all-to-all communication.
- Uses a publish/subscribe pattern.

TinyMessageBus Implementation

- `TinyMessengerHub.DefaultHub` for system wide coms
- `IComponentMessageHub` for UI internal communication
- `Subscribe` in constructor
- `Unsubscribe` in `Dispose` (*not required*).

Demo

- `CoreServicesRegistry`
- `WebServiceHost` *publish*
- `StatusViewModel.ServiceStatusChanged` *subscribe.*

Jaunt: Strong vs. Weak Reference

- References to objects are counted
- Strong reference increases a reference counter
- Weak reference does not increase the reference counter
- If a reference counter is back to `0` the reference can be removed
- A weak reference can be collected by GC, so a reference becomes `null`
- Strong references can causes memory leaks (caching)
- TinyMessageBus uses WeakReference internally.

Syslog Overview

- TCP or UDP service to aggregate error message
- Network-wide single point of logging
- ...

Syslog Implementation

- Desktop app uses serilog for logging
- Mobile app uses serilog client

Demo

Jaunt: Nuget commandline

- Install packages from packages.config
- Download packages into dedicated folder
- Get tools without need of .NET or Visual Studio
- `nuget install syslog-server`
- *Issue*: Dependencies

- Logging in a proper way
- Test iPhone
- Fix issues UWP (e.g. theming)
- Push to
 - Play Store
 - App Store
 - Microsoft Store
- Logging settings from serilog library settings file
- DjList should be smarter
- Configuration settings e.g. backend
- youtube playlist/music requests
- implementation resolver `ImplementationResolver<T>`
- C# features