Varia:

Session: Starts with login and ends with logout, drawback: each task might only be done once per session

TDMS logging -> download to local folder (~1sec) -> copy to tmp folder (AppData/Local../ETH/ETH\_MIKE.. shortcut available in front end directory) -> zip compression (after this it is crash safe) -> upload to webdav server (polybox)

Config Files Default values can overwritten by specifying them in json file

Load configurations from json file:  
number of trials per task, …

Config.Get\* ()

Database

TaskState

AssessmentMode

Hand Selection

State machine

Safety

Store all data without risk of loosing anything

Main Loop

UDP sending loop

TCP Listener Loop

Process()

Process()

BlockingCollection msgQueue  
ConcurrentQueue pendingsCallbacks

sendMessage()  
sendControlData()  
sendPatientData()

DownloadBackendLogAsync()

BackendClient

ControlData: bool EmergencyStop  
 bool Start  
 bool Restart  
 bool FrontendStarted  
 bool Close  
or  
PatientData: bool LeftHand  
 enum AssessmentMode  
 string SubjectNr  
 string DateTime  
 string PhaseTrialCount  
 string StudyName

RobotState: uint Counter  
float Time  
float Position  
float StartingPosition  
float TargetPosition  
float Force  
byte Trial  
enum RomState  
bool TargetState  
bool Finished  
bool Flexion

Connect()

Patient CurrentPatientMetadata

ConcurrentQueue ResultStoreQueue

CreateAssessment()  
CreateSession()  
ChangeActiveHand()  
RegisterPatient()  
PatientExists()  
TryGetLastSessionForPatient()  
LoadAllResultsForCurrentPatient()  
…….

WebDavUploader

Load database from file db.db

Database

TrySetLanguage()

Provides label in chosen language via  
Strings.<enum\_lable\_name>.Get()

Static class

Read from all files in StreamAssests/Localization

LocalizationManager()

LocalizationManager

WriteLogEntry()

OnTick()

PatientData CurrentPatient  
RobotState CurrentRobotState  
BackendClient backendClient  
DataReceiver robotStateReceiver  
WebDavUploader uploader

OnMainButtonClick()  
EmergencyStop()  
FinalizePatientSetup()  
TransitionTo\*()

AbstractMikeUserInterface

Log to csv file in folder structure

RobotState currentRobotState  
IDataProcessor currentDataProcessor

Runs on separate thread.

ReceiveData()

DataReceiver

TDMS logging

**TCP communication**

**UDP stream**

**Back End**

**Front End**