

# requirements a

## capture and store

- capture videostreams from ip cams (existing infrastructure)
- optional for now: capture video data in other ways
  - store and forward for higher robustness, ...

--> in any case a server component that can

- receive rtsp, ... streams

- store the received data in a organized and permissioned way  
is needed

- optional for now: increased data security, data lineage, ...

# requirements b

## image processing

- basic zone
  - algo / sensitivity adjustable
- different ml/ai models
  - can be limited to zones
  - could be parameterized

--> zone management

- case by case

- templates for reproducibility

# c - requirements

## automation

- alarms
  - based on image processing
    - fighting mice
  - based on zones
- based on system state
  - missing video data
  - ...

# d - requirements

## view and export

- for compliance check
- for using the data in of research
- unclear
  - integrated tag managment needed?
  - managment of externally postprocessed vodo files
  - managment of externally generated taging data
  - managment of externally generated results

# e 1 - status

## zoneminder ~ ZM

- can capture and store streams
- open source projekt looks not attractive
  - status of documemtation
  - status of docker
  - usability
    - handling zones (on a case by case basis) is messy
    - experienced problems with config
  - has some user/permission system
  - integrating ai/ml models is in early draft stage
    - on selected images of a stream
      - in realtime, not for postprocessing

# e 2 - status

## zoneminder

- some extension code for imouse exists
  - who will
    - develop it further
    - keep it aligned with a further developed zonminder open source
- unclear
  - handling of externally postprocessed streams
  - postprocessing in zoneminder
  - zone templates
  - zone management for ai extensions
  - ...

# e 3 - status

## frigate ~ FG

- can capture and store streams
  - looks more active in development / attractive
  - offers a extension model
    - not sure if tis is used for the custom code
  - limited visionai model integration via frigate+ (paid) supported
  - custom code not working properly
    - custom code source not available
      - recheck license compatibility
      - existing custom code seems to integrate badly in frigate (reupload of video data)
  - not focused on research data management

## **e 4 - status**

### **frigate**

- tbd



# f 1 - strategy

## business model

- selling the retrofit hardware is not the business model
- selling a solution for handling research data is the goal
  - options in context with open source:
    - consulting
    - freemium
    - saas
    - (managed) on premise deployment .. full service
    - premium hardware (data lineage, store&forward, edge processing)
    - premium add-on services as alarms ...

## f 2 - strategy

### business model

- more effort needed to become a
  - data sharing platform
  - data mediator
  - data broker
  - ...

# g 1 - steps forward

## current situation zonminder

- zoneminder
  - seems to be working better than frigate for now
  - source for extension is available
    - works more OKish the frigate + custom extension
  - author is more responsive (sometimes)
- use zoneminder but don't invest to much

# g 2 - steps forward

## current situation frigate

- frigate
  - source of extension not licensed by imouse
    - effectively imouse is the sales department of the software company
  - unclear how good frigate and the custom extension can be developed together in the next years
    - already given the current bad integration of postprocessed video files
- try to get license / function / cooperation issues resolved
- deeper look technical into frigate as basis for development
  - decide go on / no go (more likely)

# g 3 - steps forward

## questions for the next years

- moving a open source project (like ZM/FG) into research data managment software direction means contributing to the project with unclear results
  - forking is possible: more freedom short term, less shared benefit long term, legacy in code and license
- how much value is in the limited/not yet working ai/ml integration of the ZM/FG
- how much value is in the limited/badly working zone managment integration of zm/fg
- how limiting are the open source projects ZM/FG for the business model / strategy (tbd)

# g 4 - steps forward

## serverside

- use ZM/FG as is (with so far working extensions / as usable) for data capture and storage
- work on own limited data capture and storage system for data lineage, reliability
- work on own frontend component for management of zones, models, .. for edge deployments and server
- work on own frontend component for management of video data and metadata
  - import, export, postprocessing, tagging

## g 5 - steps forward

### hardware / edge

- look into edge processing for more reliability, reduced data size, data lineage, options for premium hardware business model (can be COTS HW with closed software)
  - see: management of edge deployment of zones, models, ..

