1) Acquisition of frames from a Webcam in Linux and storage of the frames on disk. Variation in disk write shall not affect the frequency at which frames are acquired. Therefore the task carrying out frame write on disk shall be decoupled from the task supervising frames acquisition. Task implementation can be via Linux processes or Threads.

2) Acquisition of frames from a Webcam in Linux and storage of the frames on disk. Acquired frames shall be sent via TCP/IP to a separate server that shall store acquired frames on disk. In the protocol used, the filename shall be sent to the server when the connection has been established,

3) Producer-(multiple) consumers program with remote status monitoring. An actor (thread o process), separate from the producer and the consumers shall monitor the message queue length, the number of produced messages and the number of received messages for every consumer. The collected information shall be sent via TCP/IP to a server that shall print the received information.

4) Producer-(single) consumer program with dynamic message rate adjustment. The consumer shall consume messages at a given rate, that is, with a given delay simulating the consumed message usage. An actor (task or process) separate from producer and consumer shall monitor the message length. This actor shall adjust the production rate in order to maximize it provided that a given message queue threshold is not exceeded

5) Simulation of dynamic periodic task execution. A pre-defined set of routines shall be defined with given processor usage, period and deadline. Every routine shall be composed of a program loop followed by a nanosleep() call. The exact amount of CPU time and consequently of the processor utilization can be done in advance using the time Linux command. The execution supervisor shall listen in TCP/IP for requests for task activation/deactivation and shall start a new thread running the selected routine. Before accepting a request for a new task, a response time analysis shall be carried out in order to assess the schedulability of the system. Optionally, a multicore simulation can be performed: in this case, the request shall specify the index of the routine to be executed in the new task and the assigned core, and the supervisor shall carry out response time analysis for each core.