Motion Tracking

The application tracks the moving objects on video frames. It implements a pipelined motion tracking system with the pipelining stages as shown in Fig 1. The image frames of a video of moving objects are stored in the SDRAM. The stage 1 finds the difference between two successive image frames and binarizes the difference image. Connected component analysis is then performed on the binary image. Those components with area greater than a pre-defined threshold (*SIZE_THRESHOLD* in *app_conf.h*) are only considered for annotation. They correspond to the objects with significant motion. Insignificant background motion such as movement of leaves in the trees is ignored through this threshold selection. Bounding boxes of these components are drawn over the original image frames. The annotated frames are finally displayed one after another on LCD.

The demo runs on an L16 sliceKIT and the hardware setup is shown in Fig 2. The source code is available in the *motion_tracking* branch of the GitHub repo *sc_image_processing*.

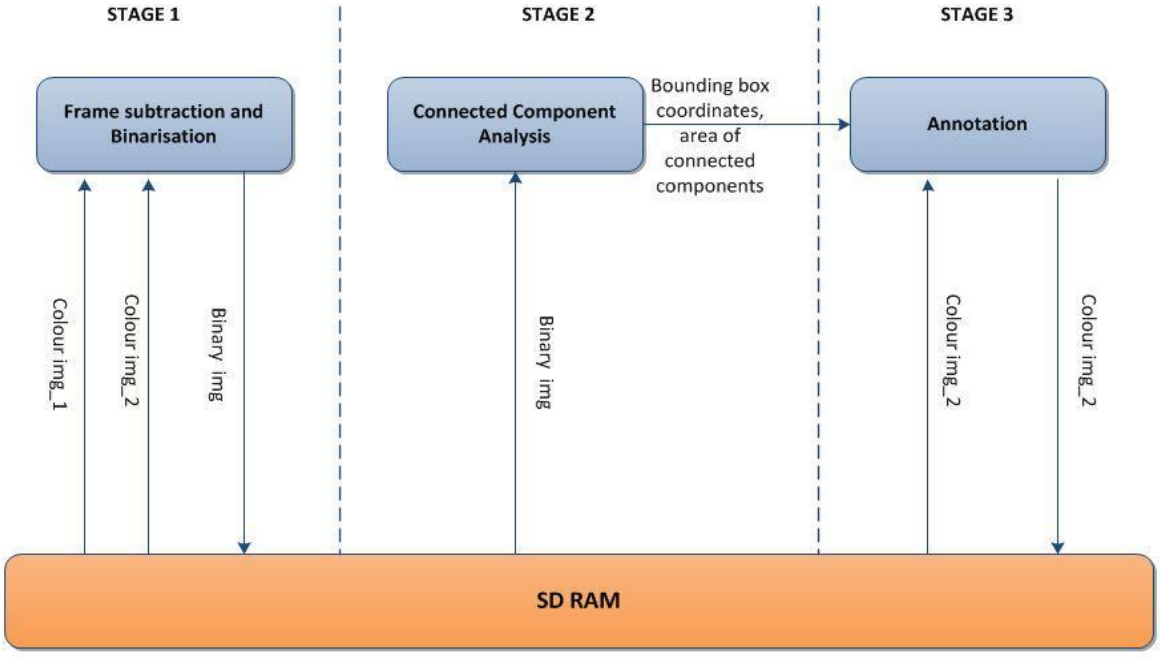

Fig 1: Pipelined Motion Tracking System

Fig 2: Hardware Setup