SDP *Individual report 1*

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Together with Stefan Sabev and An Nguyen researched the source code and evaluated the performance of projects 4, 5, 6 and 11 from 2012 and a number of projects from 2011.
Together with Stefan I set up a Virtual Environment, which simplifies greatly the migration of the code, provides dependences and uses a newer and better-performing version of Python, than the one provided on the DICE machines.
Created a GUI module which dynamically modifies the barrel distortion-compensation matrices and provides a proper rectangular image from the video stream.

Highlights:

- Virtual environment will help other team-members meet dependency requirements without an effort and will greatly help future students understand and use our Vision module.

Points of improvement:

- We need to research and implement a good socket server, to be used by the controlling GUI.
- More work is needed on controlling the colour thresholds (particularly the yellow plate) in order to detect the direction of the robot better.
- Currently the black dot behind the T-shaped coloured marker is not used when calculating the orientation vector - I need to research a way to add it to the detected image, as it would make direction estimation more accurate