Project description for bachelor project TU Delft

Wacom - company description:
Wacom is the world's leading manufacturer of pen tablets and interactive pen displays. It is our mission to create harmony between people and technology through intuitive interface solutions. Wacom's products are used by professionals and consumers in the areas such as digital photography and design in combination with relevant software solutions. Wacom's patented technology, called Penabled, is also offered to manufacturers of mobile devices such as Tablet PC's and smart phones.

Problem definition:
Wacom would like to expand its product range into interaction with large display surfaces, for instance using video projectors. The aim is to create an input device (say pen) that allows the user to interact with and annotate images that are projected onto a surface such as writing board or wall. The envisioned solution would have similar functionality as current interactive whiteboard systems such as 'Smartboards' but with the additional advantages of the mobility of the solution as well as lower cost.

Project description:
The aim of the project is to develop and implement the software that is required for the detection of the input device within the projected image. The software should demonstrate the proof of principle as well as the basic functionality. The project will consist of two phases:

1. Evaluation and selection of solution route:
There are several possible detection methods to detect the pen, for instance through the attachment of a pattern to the pen that is detected or by adding a (IR) lightsource to the pen. In the first phase, these methods should be evaluated and one method is to be selected for the next phase. The duration and depth of the work in this phase is to be discussed among all participants in order to ensure that enough time is left for the second phase.

2. Implementation
Development of software in order to create prototype and proof-of-principle. In addition, recommendations and follow up work should be defined.

Organization:
The project can be performed at the TU Delft. Wacom can provide the required hardware for the project.