

## Thesis proposal: Hand visualization using Leap Motion

### *About XMReality*

XMReality AB develops and sells a remote guidance solution that allows users to quickly and simply understand and solve problems over large distances. The solution is available on both desktop and mobile devices, including smart glasses.

The company is situated in Mjärdevi, Linköping.

### *Background*

One strong feature of the XMReality remote guidance solution is the ability to guide using hands overlay. When using this feature the guide can use his or her hand to point and show gestures in real time overlaid on top of the video from the individual getting help. The current implementation of this is based on using color separation to detect the hand or other foreground object and separate it from the background. This works best when used with a uniform background. It would be advantageous to be able to detect and visualize the hands without being dependant on the background.

### *Thesis proposal*

Investigate alternative solutions for generating the hands overlay based on the Leap Motion camera and software.

The Leap Motion solution consists of a camera unit and software to identify and model a hand being held above the camera. Using this would remove the need for a uniform background and hence enable a more flexible solution.

The thesis work would include creating a proof of concept that integrates the Leap Motion solution with XMReality Remote Guidance and investigating the usability aspects of using a model of a hand for guidance instead of an image of a real hand.

### *Who are you?*

You are a bachelor or master student with a keen interest in computer graphics and augmented reality. You are also driven, self going and want to work in an innovative environment.

### *Extent*

This thesis project is suitable for 1-2 students at bachelor level or 1 student at master level.

### *Preferred starting date*

Spring 2020.

### *Application*

Apply by sending a personal letter and your CV to Sara Wennstam, HR Manager, [hr@xmreality.se](mailto:hr@xmreality.se)