

Reducing dizziness when using a video-see-through head-mounted display

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1 INTRODUCTION

2 OBJECTIVES

After these firsts weeks of development some objectives have change and other have appeared, as we will explain in section 4 the development time of the depth map was underestimated and some change had to be made in the project planning.

Related with the depth map, a new objective appeared, the integration of a calibration system that will allow us to undistort the stereo image pair. The integration of this system is now mandatory because undistorted images are required in order to obtain a reliable depth map.

Also after the development of the depth map a issue appeared, the speed of the generation of depth map images was far from real time, this could give our system a huge latency, preventing any dizziness improvement or real scenario uses. For that reason, the improvement of this speed will be a new objective. There are two ways to change this:

3 METHODOLOGY

The custom scrum methodology explained in the previous report has been followed without any change. Evey part of the development process has been documented and every change in the code has been uploaded to a github repository. The OpenCV [1] library has been used to develop the calibration and undistort phase.

4 PLANNING AND DEVELOPMENT PROGRESS

- Reduction of the image resolution: In our use case, only the center of the images is necessary, this is because it is where the user will be usually looking at, therefore taking off the outer pixels of the images will not alter the behavior of the vergence system and will improve the speed of the generation of depth map images.
- Faster library or processing:

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REFERENCES

- [1] Opencv team. Opencv library. <https://opencv.org/>, 2018. Last access March 10 2018.