
Augmentation Concept Design for Helicopter Operations at Rotorcraft Simulation Environment

Background:

One of the most challenging aspects of helicopter operation is to land on a moving ship deck, because of –

1. Influence of landing zone on pilot performance.
2. Limited field of view during landing maneuver.
3. Degraded visual environment.

To achieve reduced pilot workload and increase flight safety during landing maneuver, a pilot fitted presentation of the outside world events and helicopter parameters are required.

Scope of Work:

This bachelor thesis / team project (Semesterarbeit) / Master Thesis aims to integrate multiple 2 dimensional concept designs for visual presentation of helicopter parameters. For the Human Machine Interface (HMI) concept design integration, an existing see-through Helmet Mounted Display can be used as reference. Displaying needed information in visual conformal manner - for instance “predictive parameters” - enables to design entirely novel pilot assistance systems. Design and integration may lead to a test campaign situated at the Rotorcraft Simulator Environment (ROSIE).

Skills:

1. Knowledge of C/C++
2. Helicopter flight physics

Tools:

Flight Simulator, C++

Language:

German or English

Start:

Flexible

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Figure: Pilots Eye view through Head-Mounted Display (HMD)
at Rotorcraft Simulation Environment (ROSIE)