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Human factors issues in head-up display design: The book of HUD.

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Abstract : In 1946, Lt Col Paul Fitts reported that 'It has been proposed...to throw the image of certain instruments onto the wind screen so that they might be viewed while looking out of the plane.' J.M. Naish of the Royal Aircraft Establishment was a prime mover in the conception and development of head-up displays (HUDs). In 1960 the first operational HUD (other than gunsight reticles) was flown in the Hawker-Siddeley Buccaneer. What has happened since? This SOAR will examine the human factors aspects of the current state of the art in HUDs. The purpose of this report is to present the current state of the art for HUDs.

Therefore we have gathered and evaluated the display literature relevant to HUD design and where possible provided specific values for display parameters based on the capabilities and limitations of the human user. On the applied side, the report is intended to be of interest to planners, developers, and designers of HUDs. Surveying the state of the art also includes evaluating the evidence upon which HUD design is based. Since HUDs represent a technological leap that intensifies the complexity of the interaction between displayed information and human performance, the discussion of the underlying issues is also intended to interest human-factors researchers and theorists.

Descriptors : *HUMAN FACTORS ENGINEERING , *HEAD UP DISPLAYS , COMPUTER PROGRAMS , THREE DIMENSIONAL , VISUAL PERCEPTION , MOTION

Subject Categories : Human Factors Engineering & Man Machine System

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