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| Project | **Head Mounted Display (HMD) Based 3D Content Motion Sickness Reducing Technology**  <<http://sites.ieee.org/sagroups-3079/>> |
| Title | **Use case-HF** |
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| Abstract |  |
| Purpose |  |
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# Use Case

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| Case | Descriptions | Remarks |
| 1 | Interactive VR content service considering individual motion sickness susceptibility | Motion sickness susceptibility & Duration |

## Use Case 1 (Motion sickness susceptibility & Duration)

### Pre-condition

Motion sickness susceptibility is one of important human factors to predict the level of users’ cybersickness in virtual reality (VR). Previous research has shown that people who are susceptible to motion sickness tend to show higher level of cybersickness in VR. Motion History Questionnaire (MHQ) or Motion Sickness Susceptibility Questionnaire (MSSQ) has widely been used to measure VR users’ cybersckness. It is also essential to set appropriate time duration for using VR content.

The longer you are exposed to VR content, the more likely you are to experience cybersickness. Many studies have suggested that it is recommended not to be exposed to VR content longer than 30 minutes.

### Application

Based on users’ motion sickness susceptibility scores, VR content can be modified in various ways. For example, users who are susceptible to motion sickness can experience VR content with a narrow FOV than those who are not. Also, a warning sign can be provided to encourage users to take appropriate breaks during the VR experience or to remind how long the users have experienced VR.

### Environment

Users experience virtual reality using various devices such as HMD, CAVE, and screen. VR content services such as playing a game and watching a movie can be provided. The content can be modified depending upon the users’ motion sickness susceptibility scores.

### Case

* All users answer their MSSQ, and the MSSQ scores can be used to provide an individually customized VR content.
* Users who report higher motion sickness susceptibility can use a modified version of VR content which has a narrower FOV or a shorter duration of VR experience.