A Closer Look on the Difficulties to Determine the Quality of Software Requirements

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Abstract: Increasing demands on quality and complexity are a major challenge for the development of industrial software products. Automotive software in particular is subject to additional safety, security and legal demands. In such software projects, the specification of requirements is the first concrete output that is mostly written in natural language. However, in practice, two problem areas exist: First, due to reasons like lack of knowledge and missing experience of engineers, requirements quality often is not at a satisfactory level. Second, a massive increase of the number of requirements for software poses a scalability issue. In our research we want to take a closer look on the quality determination of software requirements. We present an overview of existing research approaches based on the standard ISO/IEC/IEEE 29148:2011 that offers nine essential characteristics for requirements quality. In addition, we analyze results from several sessions in which experts rate automotive software requirements.

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