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Development of a Versioned SQL Database System for Parameter Management in the Common Powertrain Controller

Entwicklung eines versionierten SQL-Datenbanksystems für das Parametermanagement im Common Powertrain Controller

Master's thesis

In the study program
Mechanical Engineering

by
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Institutional Supervisor:	Dan Greiner
External Supervisor:	Nikolas Schönfelder, Daimler Truck AG

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Master's thesis

for

Mr. Mahesh Kollati

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Title: Development of a Versioned SQL Database System for Parameter Management in the Common Powertrain Controller

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In current vehicles, the coordination of variant diversity plays an important role. For cost reasons, attempts are made to use common parts across model series and for different equipment variants within a model series. For control units, this approach also extends to the software, where possible. Different characteristics are then implemented using parameters. Parameter management is typically done using databases.

This master's thesis aims to develop a concept for an SQL database for managing parameters for a central control unit in vehicle applications. Various aspects shall be considered.
First, various versioning approaches shall be tested and evaluated. The goal is to document changes in a traceable manner.
Based on the requirements of software developers, various use cases shall be defined. Based on this, a concept for the tables within the database shall be developed.
Furthermore, it shall be described how the database can later be used by both software developers and development engineers. This also includes the development of a user interface.
Finally, the limitations and restrictions of the developed approach should be described.

The results must be documented and presented.

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Confidentiality note: This thesis must be treated confidentially until .
Institutional Supervisor: Dan Greiner

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Examiner: Prof. Dr.-Ing. Hans-Christian Reuss

Start Date:
Submission Date:

Prof. Dr.-Ing. H.-C. Reuss

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Stuttgart, _____

Mahesh Kollati