|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | |  |
|  |  | | |  |
|  | Digital Embrace 1.0 | | |  |
|  | (MyFeatureId) | | |  |
|  |  | | |  |
|  |  | | |  |
| Document Type | **Feature Document (FD)** | | |  |
| Template Version | **6.0b** | | |  |
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|  | | | | |
| Document Approval | | | | |
| Person | Role | | Email Confirmation | Date |
|  |  | |  |  |
|  |  | |  |  |

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# Contents

[Disclaimer 2](#_Toc13671930)

[Contents 3](#_Toc13671931)

[1 Introduction 5](#_Toc13671932)

[1.1 Document Purpose 5](#_Toc13671933)

[1.2 Document Scope 5](#_Toc13671934)

[1.3 Document Audience 5](#_Toc13671935)

[1.3.1 Stakeholder List 5](#_Toc13671936)

[1.4 Document Organization 5](#_Toc13671937)

[1.4.1 Document Context 5](#_Toc13671938)

[1.4.2 Document Structure 6](#_Toc13671939)

[1.5 Document Conventions 6](#_Toc13671940)

[1.5.1 Requirements Templates 6](#_Toc13671941)

[1.6 References 7](#_Toc13671942)

[1.6.1 Ford Documents 7](#_Toc13671943)

[1.6.2 External Documents and Publications 7](#_Toc13671944)

[1.7 Glossary 7](#_Toc13671945)

[1.7.1 Definitions 7](#_Toc13671946)

[1.7.2 Abbreviations 7](#_Toc13671947)

[1.7.3 Parameters / Values 7](#_Toc13671948)

[2 Feature Overview 9](#_Toc13671949)

[2.1 Purpose and Description of Feature 9](#_Toc13671950)

[2.2 Feature Variants 9](#_Toc13671951)

[2.2.1 Regions & Markets 9](#_Toc13671952)

[2.3 Input Requirements 9](#_Toc13671953)

[2.3.1 Legal Requirements 9](#_Toc13671954)

[2.3.2 Trustmark Requirements 9](#_Toc13671955)

[2.3.3 Industry Standards 9](#_Toc13671956)

[2.4 Lessons Learned 9](#_Toc13671957)

[2.5 Assumptions 10](#_Toc13671958)

[3 Feature Context 11](#_Toc13671959)

[3.1 Feature Context Diagram 11](#_Toc13671960)

[3.2 List of Influences 11](#_Toc13671961)

[4 Feature Modeling 13](#_Toc13671962)

[4.1 Operation Modes and States 13](#_Toc13671963)

[4.2 Use Cases 14](#_Toc13671964)

[4.2.1 Use Case Diagram 14](#_Toc13671965)

[4.2.2 Actors 14](#_Toc13671966)

[4.2.3 Use Case Descriptions 15](#_Toc13671967)

[4.3 Driving and Operation Scenarios 15](#_Toc13671968)

[4.4 Decision Tables 15](#_Toc13671969)

[5 Feature Requirements 16](#_Toc13671970)

[5.1 Functional Requirements 16](#_Toc13671971)

[5.1.1 Error Handling 16](#_Toc13671972)

[5.2 Non-Functional Requirements 16](#_Toc13671973)

[5.2.1 Safety 16](#_Toc13671974)

[5.2.2 Security 16](#_Toc13671975)

[5.2.3 Reliability 16](#_Toc13671976)

[5.3 HMI Requirements 16](#_Toc13671977)

[5.4 Other Requirements 16](#_Toc13671978)

[5.4.1 Design Requirements 16](#_Toc13671979)

[5.4.2 Manufacturing Requirements 16](#_Toc13671980)

[5.4.3 Service Requirements 16](#_Toc13671981)

[5.4.4 After Sales Requirements 17](#_Toc13671982)

[5.4.5 Process requirements 17](#_Toc13671983)

[6 Functional Safety 18](#_Toc13671984)

[6.1 System Behaviors for HARA 18](#_Toc13671985)

[6.2 Safety Assumptions 18](#_Toc13671986)

[6.3 Safety Goals 18](#_Toc13671987)

[6.4 Functional Safety Requirements 19](#_Toc13671988)

[6.4.1 <Goal 1 Name> 19](#_Toc13671989)

[6.4.2 <Goal 2 Name> 19](#_Toc13671990)

[6.4.3 Derivation of Requirements on Assumptions 19](#_Toc13671991)

[6.5 (Decomposed) Functional Safety Requirements 19](#_Toc13671992)

[7 Architecture 21](#_Toc13671993)

[7.1 Functional Architecture 21](#_Toc13671994)

[7.1.1 List of Functions 21](#_Toc13671995)

[7.2 Logical Architecture 22](#_Toc13671996)

[7.2.1 Logical Elements 23](#_Toc13671997)

[7.2.2 Logical Interfaces 23](#_Toc13671998)

[8 Open Concerns 24](#_Toc13671999)

[9 Revision History 25](#_Toc13672000)

[10 Appendix 26](#_Toc13672002)

**List of Figures**

[Figure 1: Sample Context Diagram 11](#_Toc13672003)

[Figure 2: Feature Operation Modes and States 13](#_Toc13672004)

[Figure 3: Use Case Diagram 14](#_Toc13672005)

[Figure 4: Functional Boundary Diagram 21](#_Toc13672006)

[Figure 5: Logical Boundary Diagram 22](#_Toc13672007)

**List of Tables**

[Table 1: Features described in this FD 5](#_Toc13672008)

[Table 4: Ford internal Documents 7](#_Toc13672009)

[Table 5: External documents and publications 7](#_Toc13672010)

[Table 6: Definitions used in this document 7](#_Toc13672011)

[Table 7: Abbreviations 7](#_Toc13672012)

[Table 8: Parameters / Values used in this document 8](#_Toc13672013)

[Table 2: Feature Variants 9](#_Toc13672014)

[Table 3: Regions & Markets 9](#_Toc13672015)

[Table 9: List of Influences 12](#_Toc13672016)

[Table 10: Operation Modes and States 13](#_Toc13672017)

[Table 11: Transitions between Operational Modes and States 14](#_Toc13672018)

[Table 12: List of Actors 15](#_Toc13672019)

[Table 13: Sample Decision Table 15](#_Toc13672020)

[Table 14: System Behaviors for HARA 18](#_Toc13672021)

[Table 15: Functional Safety Assumptions 18](#_Toc13672022)

[Table 16: Functional Safety Goals 19](#_Toc13672023)

[Table 17: Requirements Decomposition Table 20](#_Toc13672024)

[Table 18: List of Functions 22](#_Toc13672025)

[Table 19: Logical Elements 23](#_Toc13672026)

[Table 20: Logical Interfaces 23](#_Toc13672027)

[Table 21: Open Concerns 24](#_Toc13672028)

# Introduction

## Document Purpose

A Feature Document (FD) document specifies **what** the feature shall do and how it shall behave from customer perspective. It should also provide reasoning and background **why** we have the feature in the vehicle.

The FD also serves as an Item Definition as defined by ISO26262 for those features, which follow the Ford Functional Safety process.

To get more information about the concept of feature, function and component level abstraction refer to the [Ford RE Wiki](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Engineering+for+SW+Enabled+Features). For details on the Ford Functional Safety (ISO26262) process refer to the [Ford Functional Safety Sharepoint](https://pd3.spt.ford.com/sites/GlobalFunctionalSafety/Pages/default.aspx).

## Document Scope

This Feature Document (FD) specifies the following features:

|  |  |  |  |
| --- | --- | --- | --- |
| **Feature ID** | **Feature Name** | **Owner** | **Reference** |
| <Add VSEM Global Feature Dictionary ID> | Digital Embrace 1.0 | Xu Zhang<xzhan304> | <Add VSEM Link> |
|  |  |  |  |

Table 1: Features described in this FD

## Document Audience

The FD is written by the feature owner of <Xu Zhang>. All Stakeholders, i.e., all people who have a valid interest in the feature should read and, if possible, review the FD. It needs to be guaranteed, that all stakeholders have access to the currently valid version of the FD.

**#Hint:** The FD template has the IP Classification “Proprietary” by default. IP Classification “Confidential” might be required in some cases, e.g. by Ford Functional Safety.

**#Macro:** [Add Ins -> Edit Document Properties macro](http://wiki.ford.com/display/RequirementsEngineering/How+to+use+the+Specification+Templates#HowtousetheSpecificationTemplates-EditDocProperties) (select “Proprietary” for “Document Classification”)

### Stakeholder List

For the latest list of stakeholder of the feature and their influence refer to <Put VSEM Link here>.

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **CDSID** | **Role** | **Stakeholder Group** |
| Xu Zhang | xzhan304 | Teac Lead |  |
| Shengjun Wu | swu104 | Product Owner |  |
| Alan Chen | Cyu41 | Cloud System Architect |  |
| Ashley Jian | yjian | Vehicle System Architect |  |
| Haifeng Yang | yyang80 | CMS Engineer |  |
| Yifan Shen | yshen58 | CMS Engineer |  |
| Wenger Gong | ygong6 | IVISL Engineer |  |
| Daozhong Cheng | ddcheng17 | Inhouse Development Engineer |  |
|  |  |  |  |

**#Hint:** Refer to [Ford RE Wiki – Stakeholder List](http://wiki.ford.com/display/RequirementsEngineering/Stakeholder+Analysis) on how to create a stakeholder list. The stakeholder list should be stored in VSEM in the pseudo folder “General Data Artifacts” of the corresponding feature.

## Document Organization

### Document Context

Refer to the [Specification Structure page](http://wiki.ford.com/display/RequirementsEngineering/Specification+templates) in the [Ford RE Wiki](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Engineering+for+SW+Enabled+Features) to understand how the FD relates to other Ford Requirements Documents and Specifications.

### Document Structure

The structure of this document is explained below:

**Section 1** – Introduction how to use this document including responsibilities and requisite documents. Explains the terminology. Gives a clarification of the definitions, concepts and abbreviations used in the document.

**Section 2** – Feature Description. States briefly the background and the purpose of the feature, feature variants and corresponding regions and markets. Also includes input requirements, assumptions and constraints.

**Section 3** – Feature Context describes all external entities, which have an influence on the feature.

**Section 4** – Feature Modeling. Contains Use Case, Driving Scenarios, State Charts to describe the functional behavior of the feature.

**Section 5** – Safety. Lists System Behaviors and Safety Goals of the feature.

**Section 6** – Feature Requirements. Lists functional and non-functional requirements of the feature.

**Section 7** – Architecture. Shows the coarse architecture, which the feature requirements are deployed to. Describes the elements and the boundary of the feature as well as the decomposition and distribution of associated functions.

**Section 8** – List of Open Conerns

**Section 9** – Document Change History including a list of new or modified requirements. The requirements in this document are tagged, and this section contains different types of tables listing all, new, or changed requirements by their title and page no.

**Section 10** – Appendix

**#Hint:** All sections are mandatory, unless explicitly marked by the tag “#Classification” as “optional” or as applicable e.g. to certain domains like “Functional Safety”.

## Document Conventions

### Requirements Templates

Each requirement, use case or scenario in this specification shall follow the corresponding template given in the document template *Specification\_Macros.dotm* at [RE Wiki - Specification Templates](http://wiki.ford.com/display/RequirementsEngineering/Specification+templates?src=contextnavpagetreemode).

**#Hint:** The Specification\_Macros.dotm template also provides macros to insert the requirement templates. Refer to “[How to use the Specification Templates](http://wiki.ford.com/display/RequirementsEngineering/How+to+use+the+Specification+Templates?src=contextnavpagetreemode)” on how to enable the macros and the requirements templates in this specification.

The requirements macro and requirements templates also enable the import of the specification to VSEM (refer to ["How to import specifications into VSEM as separate requirements"](http://wiki.ford.com/pages/viewpage.action?pageId=104991616&src=contextnavpagetreemode)).

#### Identification of requirements

The unique requirement ID given in the headline of any requirement follows the requirement throughout the development process. The requirement ID format follows a well-defined syntax.

All identifiers in a FD shall be composed of 4 parts:

* A leading prefix, which indicates the type of requirement (R=Requirement, UC=Use Case, SC=Scenario, …)
* A prefix, which indicates the abstraction level (F=Feature, FNC=Function, CMP = component).
* Followed by a name, indicating the scope, which the requirement belongs to (e.g. feature or function name )
* Ending with the actual requirement number

*Example:*

*R\_F\_AutoLamps\_00004* This is the fourth requirement on feature level for the feature Autolamps.

#### Requirements Attributes

The templates provided by *Specification\_Macros.dotm* define a list of attributes for each requirement. This helps to classify the requirement. The attributes are explained at [RE Wiki - Requirements Attributes](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes?src=contextnavpagetreemode).

## References

### Ford Documents

List here all Ford internal documents, which are directly related to the feature.

| **Reference** | **Title** | **Doc. ID** | **Document Location** | **Revision** |
| --- | --- | --- | --- | --- |
| [aaa] |  |  |  |  |
|  |  |  |  |  |

Table 2: Ford internal Documents

### External Documents and Publications

The list of external documents could include books, reports and online sources.

**#Hint:** You may refer to [IEEE Citation Reference](http://www.ieee.org/documents/ieeecitationref.pdf) on how to format a reference.

| **Reference** | **Document / Publication** | **Document Location** |
| --- | --- | --- |
| [bbb] |  |  |
|  |  |  |

Table 3: External documents and publications

## Glossary

**#Hint**: Terms, concepts and abbreviations used in the document shall be defined and illustrated here. Note that changes to terms and/or concepts described in this section tend to cause major updates to this document.

The tables below have feature specific definitions and abbreviations. For additional, non-feature specific terms please refer to the [RE Glossary](http://wiki.ford.com/display/RequirementsEngineering/Glossary?src=contextnavpagetreemode)

### Definitions

| **Definition** | **Description** |
| --- | --- |
|  |  |
|  |  |
|  |  |

Table 4: Definitions used in this document

### Abbreviations

| **Abbr.** | **Stands for** | **Description** |
| --- | --- | --- |
| APIM | Accessory Protocol Interface Module |  |
| BCM | Body Control Module |  |
| CMS | Content Management System |  |
| ECG | Enhanced Central Gateway |  |
| IVISL | in-Vehicle Infotainment Service Layer |  |

Table 5: Abbreviations

### Parameters / Values

| **Name** | **Description** | **Range / Resolution** |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |

Table 6: Parameters / Values used in this document

# Feature Overview

## Purpose and Description of Feature

**#Hint:** Some descriptive text to explain the purpose and functionality of the feature.

Digital Embrace是基于Lincoln Embrace的软硬件能力，通过配置云端管理后台，将开关机视频等相关的迎宾行为进行定义并存储在云端。车端会定期对云端相关定义信息进行查询，当查询到有新的参数定义时会下载相关文件并在车端进行相应的迎宾行为。后期还会将设置权限开放给用户，在车端和手机APP上均可以进行个性化设置。

Digital Embrace共有三个阶段功能，分为1.0，2.0和3.0，相应功能如下所示，此文档当前只定义了Digital Embrace 1.O的功能需求。

Phase2(2.0)目标

3. 具备车机端和移动端App同时设置Digital Embrace能力；

4. 部分硬件具备可编程能力（车外灯光、车内氛围灯等）;

5.云端管理平台升级:

(1) 接入车主画像库（需数据部门支持）;

(2) 内容库扩展支持;

\*开关机动画视频配置

\*车外灯光效果配置（新增项）

\*氛围灯效果配置（新增项）

Phase1(1.0)目标

1.实现开关机动画视频替换能力.

2. 配备开关机动画视频云端管理平台：

(1)云端管理平台具备本地数据上传、云端数据推送和管理员远程设置能力；

(2)云端管理平台配备推送规则引擎库：

\*定向能力：VIN、指定车型；

\*数据时效性：云端推送的数据可设置有效期，如国庆长假类的，有效期则可设置为7天，方便运营人员灵活操作；

Phase3(3.0)目标

6. 用户可在商城购买Digital Embrace效果.

(1) 效果包括:

\*开关机动画视频；

\*车外前后大灯效果

\*车内氛围灯效果

(2)购买Digital Embrace效果后可一键设置启用，无需再进入Digital Embrace页面额外配置。

## Feature Variants

**#Hint:** Definitions for different variants of the feature (if applicable). Give each variant a descriptive name by which it can be referenced further on in the document. If no variant exists, state “No Feature Variants”.

The Variant Description should give a short informative text which describes the variants of the feature.

|  |  |  |
| --- | --- | --- |
| Variant Name | Variant Description | Remarks |
|  |  |  |
|  |  |  |
|  |  |  |

Table 7: Feature Variants

### Regions & Markets

**#Hint:** Description of purpose and functionality of the feature. If there is no variant, give feature name in first column.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Market /**  **Region**  Variant Name | **North America** | **South America** | **Europe** | **Middle East / Africa** | **Asia / Pacific** | **China** |
|  | *<Put “Optional” or “Mandatory” or some conditional statement here>* |  |  |  |  |  |

Table 8: Regions & Markets

## Input Requirements

**#Hint:** List all input requirements, which are relevant for the feature. Typically, attribute requirements, legal requirements as well as national and international standards have to be considered.

### Legal Requirements

TBD

### Trustmark Requirements

### Industry Standards

## Lessons Learned

**#Hint:** Additional information and lessons learned from previous development or related features. A typical source for Lessons Learned is the FMA Quality History.

**#Functional Safety:** In context of Functional Safety Lessons Learned and similar information will be used to check the completeness of the Functional Safety Goals and assumptions in the Hazard Analysis and Risk Assessment (HARA).

**#Link:** [Ford Functional Safety Sharepoint](https://pd3.spt.ford.com/sites/GlobalFunctionalSafety/Pages/default.aspx)

1. 数据传输过程中网络信号不佳；
2. 数据传输过程中突然失去供电；
3. 动画质量差，播放黑屏或延迟；
4. 迎宾探测相关传感器（蓝牙钥匙、RKE、PKE）失效；
5. 蓄电池电量低；

## Assumptions

**#Classification**: Optional

**#Hint:** A list of known assumptions concerning the effects of the feature’s behavior on other features or elements (i.e., dependencies) as well as assumptions on the behavior expected by the feature (e.g. known limitations). During the course of the feature development most of those assumptions are typically either converted into actual requirements or discarded at some point – such that this chapter remains mostly empty. For assumptions, which are relevant for the Functional Safety process refer to chapter 6.2 “Safety Assumptions”

# Feature Context

## Feature Context Diagram

**#Hint:** High level diagram of feature interactions with the environment, people or other feature or other external entities.

**#Link:** [RE Wiki - Context Diagram](http://wiki.ford.com/pages/viewpage.action?pageId=107676234&src=contextnavpagetreemode)

**

Figure 1: Sample Context Diagram

## List of Influences

|  |  |  |
| --- | --- | --- |
| **ID** | **External Entity** | **Influence Description** |
| I1 | Driver | 驾驶员触发Lincoln Embrace功能后，迎宾功能展示开机动画 |
| I2 | Lincoln Embrace | Lincoln Embrace功能失效将无法触发Digital Embrace |
| I3 | Power Supply | Digital Embrace需要在有供电的情况下实现 |
| l4 | Animation Storage(Vehicle) | 车辆存储新的动画成功后需要将信息反馈给Digital Embrace |
| l5 | Animation Storage(Cloud) | 云端存储新的动画成功后需要将信息反馈给Digital Embrace |
| l6 | Operation | 运营团队的操作会影响Digital Embrace的触发情况 |

Table 9: List of Influences

# Feature Modeling

## Operation Modes and States

**#Classification:** Optional (Mandatory for Functional Safety)

**#Link:** [RE Wiki – State Charts](http://wiki.ford.com/display/RequirementsEngineering/State+Charts?src=contextnavpagetreemode)

**#Hint:** State Charts are a popular means to express feature behavior in terms of states and modes. An advantage of this state machine like approach is that consistency can be easily verified.

Figure 2: Feature Operation Modes and States

|  |  |  |
| --- | --- | --- |
| **State** | **Description** | **Requirements Reference** (optional) |
| S1 | 默认模式（只播放默认开关机动画） |  |
| S2 | 特殊模式（播放个性开关机动画） |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Table 10: Operation Modes and States

|  |  |  |
| --- | --- | --- |
| **Transition ID** | **Description** | **Requirements Reference**  (optional) |
| T1 | 存在任一一个特殊视频的播放周期内 |  |
| T2 | 当前不处于任何特殊视频的有效播放周期内 |  |
| T3 |  |  |
| T4 |  |  |

Table 11: Transitions between Operational Modes and States

## Use Cases

**#Classification:** Optional

**#Link:** [RE Wiki – Use Cases](http://wiki.ford.com/display/RequirementsEngineering/Use+Cases+Overview?src=contextnavpagetreemodehttp://wiki.ford.com/display/RequirementsEngineering/Use+Cases?src=contextnavpagetreemode)

### Use Case Diagram

**

Figure 3: Use Case Diagram

### Actors

| Actor | Description |
| --- | --- |
|  |  |
|  |  |
|  |  |

Table 12: List of Actors

### Use Case Descriptions

**#Classification:** Optional

**#Macro:** [Add Ins -> Add Requirement macro](http://wiki.ford.com/display/RequirementsEngineering/How+to+use+the+Specification+Templates#HowtousetheSpecificationTemplates-AddNewRequirement) (select “Use Case” as type)

注：Failure behavior的序号对应Expected Behavior中的序号，具体针对对应序号的行为没有按照期望实现时所采取的措施。

#### 场景管理

原型图：

****

##### 场景管理

|  |  |
| --- | --- |
| Req ID  需求标识 | 0011 场景管理 |
| Title  标题 | 登录云端管理平台的需求描述 |
| Description  描述 | 运营团队打开CMS portal网页进行登录。  登录需配备用户名和密码，以区分不同用户所具备的不同权限（管理员和普通用户）；  用户名和密码输入长度不超过20个字符；  密码需强制要求包含大小写字母、数字和符号；  登录用户的权限：  Digital Embrace1.0阶段，管理后台预设2个账号，一个账号的身份为管理员，另一个账号身份为普通用户；  管理员的权限为：添加场景，启动场景，删除场景；编辑场景；  普通用户的权限为：添加场景；编辑场景 |
| Pre-Conditions | 打开CMS portal网页  网络正常  已完成登录 |
| Trigger | 登录CMS portal网页 |
| Expected Behavior | 1.登录成功  2.弹出“Digital Embrace 云端管理后台；  3.页面显示内容包含“场景添加”“场景删除”“场景名称”“添加人”“建立时间”“场景启动时间”“场景结束时间”“推送目标”“是否启用”“动画状态” |
| Failure behavior 1 | 1.登录失败时，页面显示“无访问权限”或“账号无效” |
| Failure behavior 2 | 2.未弹出时，后台记录log |
| Failure behavior 3 | 3.页面显示信息不全时，后台记录log |
| Post Conditions | 无 |

##### 场景编辑

|  |  |
| --- | --- |
| Req ID  需求标识 | 0012 进行场景编辑 |
| Title  标题 | 进行场景编辑 |
| Description  描述 | 1.运营团队打开CMS portal网页，点击场景添加按钮后，弹出上传弹框；  2.场景编辑可对已有的场景进行信息编辑；  3.可编辑的信息有“开始结束时间”、“重复周期”，“推送目标”；  4.管理员权限和普通用户权限均可进行编辑操作 |
| Pre-Conditions | 打开CMS portal网页  网络正常  已完成登录 |
| Trigger | 点击场景编辑按钮 |
| Expected Behavior | 1.弹出场景编辑弹框（弹框样式与场景添加相同，不可更改信息置灰）;  2.编辑相应的信息；  3.点击提交；  4.场景库进行更新并返回页面端编辑成功； |
| Failure behavior 1 | 1.未出现时，进行后台log记录 |
| Failure behavior 2 | 2.无法编辑时，进行后台log记录 |
| Failure behavior 3 | 无 |
| Failure behavior 4 | 4.信息未更新成功时，向页面端返回编辑失败，并在后台记录log |
| Post Conditions | 无 |

##### 场景启用/场景关闭

|  |  |
| --- | --- |
| Req ID  需求标识 | 0013 场景启用/场景关闭 |
| Title  标题 | 场景启用/场景关闭 |
| Description  描述 | 对于已添加的场景可以进行启用和关闭操作；  普通用户点击启用时，弹出“请使用管理员账号”；  管理员账号具有场景开启和场景关闭的权限 |
| Pre-Conditions | 打开CMS portal网页  网络正常  已完成登录 |
| Trigger | 点击“未启用”或“已启用”前的选取框进行状态切换 |
| Expected Behavior | 1.当前状态为“未启用”时，点击选取框，弹出“是否确认启用”的对话框，再次点击确认后，后台“场景库”中此动画状态由“未启用”变为“已启用”，后页面端出现黑色圆形填充图案，页面端文字变为“已启用”；  2.当前状态为“已启用”时，点击选取框，弹出“是否确认关闭”的对话框，再次点击确认后，后台“场景库”中此动画状态由“已启用”变为“未启用”，黑色圆形填充图案消失，页面端文字变为“未启用”； |
| Failure behavior 1 | 1.后台状态无法由“未启用”变为“已启用”，页面端不进行任何显示变化，且后台记录log |
| Failure behavior 2 | 2.后台状态无法由“已启用”变为“未启用”，页面端不进行任何显示变化，且后台记录log |
| Failure behavior 3 | 无 |
| Failure behavior 4 | 4.信息未更新成功时，向页面端返回编辑失败，并在后台记录log |
| Post Conditions | 无 |

#### 场景添加

****

##### 场景添加准备

|  |  |
| --- | --- |
| Req ID  需求标识 | 021场景添加准备 |
| Title  标题 | 场景添加准备 |
| Description  描述 | 运营团队打开CMS portal网页，点击场景添加按钮后，弹出上传弹框。 |
| Pre-Conditions | 完成“场景添加准备” |
| Trigger | 点击场景添加按钮 |
| Expected Behavior | 1.打开Portal端后，“场景添加”按钮出现;  2.点击“场景添加”按钮，”场景添加弹框“出现  3.“场景添加弹框“出现并包含，场景名称、场景启动时间….. |
| Failure behavior 1 | 1.未出现时，进行后台log记录 |
| Failure behavior 2 | 2.未出现时，进行后台log记录 |
| Failure behavior 3 | 3.出现信息不全时，进行后台log记录 |
| Post Conditions | 无 |

##### 场景名称填写

|  |  |
| --- | --- |
| Req ID  需求标识 | 022 场景名称填写 |
| Title  标题 | 场景名称填写 |
| Description  描述 | 运营团队打开CMS portal网页，点击场景添加按钮后，弹出上传弹框。在上传弹框中进行场景名称的添加 |
| Pre-Conditions | 完成“场景添加准备” |
| Trigger | 点击场景添加按钮 |
| Expected Behavior | 1.打开Portal端后，场景添加按钮出现，点击场景添加后弹出场景添加页面；  2.输入场景名称  （1）场景名称可输入为汉字、数字、大小写字母（不包含O和L）、符号“-”；  （2）场景名称栏最多可输入20个字符 |
| Failure behavior 1 | 无 |
| Failure behavior 2 | （1）输入不符合字符时，应有浮框提示“无法识别非法字符”；  （2）超过20个字符时，后续字符将无法显示在文本框内； |
| Post Conditions | 无 |

##### 场景“开始/结束”时间选择

|  |  |
| --- | --- |
| Req ID  需求标识 | 023 场景“开始/结束”时间选择 |
| Title  标题 | 场景“开始/结束”时间选择 |
| Description  描述 | 1.运营团队打开CMS portal网页，点击场景添加按钮后，弹出上传弹框。在上传弹框中进行场景开始/结束时间的添加；  2.编辑“场景启动时间”，单位包含：（1-12）月、（1-31）日、星期（1-7）、（0-24）小时、（0-60）分钟；  3.编辑“场景结束时间”，单位包含：（1-12）月、（1-31）日、星期（1-7）、（0-24）小时、（0-60）分钟； |
| Pre-Conditions | 1.打开CMS portal网页  2.网络正常  3.点击“场景添加” |
| Trigger | 点击场景添加按钮 |
| Expected Behavior | 1.选择启动时间和结束时间 |
| Failure behavior 1 | 1.场景结束时间编辑完成后需与“场景启动时间”做对比，如结束时间早于开始时间，需提示“结束时间早于开启时间，请重新编辑”或直接无法选择； |
| Post Conditions | 无 |

##### 上传时选择重复周期

|  |  |
| --- | --- |
| Req ID  需求标识 | 024 上传时选择重复周期 |
| Title  标题 | 场景“重复周期”的添加及要求 |
| Description  描述 | 运营团队打开CMS portal网页，点击场景添加按钮后，弹出上传弹框。在上传弹框中进行场景重复周期的添加；  1.当“重复周期”选择为“每天”时，自动置灰场景开始/结束时间中“月、日、星期”项为不可输入；  2.当“重复周期”选择为“每周”时，自动置灰场景开始/结束时间中“月、日”项为不可输入；  3.当“重复周期”选择为“每月”时，自动置灰场景开始/结束时间中“月、星期” 项为不可输入；  4.当“重复周期”选择为“每年”时，自动置灰场景开始/结束时间中“星期” 项为不可输入； |
| Pre-Conditions | 完成“场景添加准备” |
| Trigger | 点击场景添加按钮 |
| Expected Behavior | 1.打开Portal端后，场景添加按钮出现，点击场景添加后弹出场景添加页面；  2.选择场景重复周期 |
| Failure behavior 1 | 无 |
| Failure behavior 2 | 无 |
| Post Conditions | 无 |

##### 上传时选择“推送目标”

|  |  |
| --- | --- |
| Req ID  需求标识 | 025 上传时选择推送目标 |
| Title  标题 | 上传时选择推送目标 |
| Description  描述 | 点击“VIN列表上传”  1.文件类型为Excel文件，结尾为“.xlsx”或”.xls”;  2.文件最大size不超过10MB，如上传文件超过预设范围，则提示“文件大小超出预设范围，请重新上传”；  3.Excel表头填写“VIN”；  （仅示例）  4.文件上传成功后需提示该文件名称，并包含有效车辆数目； |
| Pre-Conditions | 完成“场景添加准备” |
| Trigger | 点击场景添加按钮 |
| Expected Behavior | 1.Pop-up场景添加页  2.点击“VIN列表上传”按钮，弹出文件选取界面；  3.选取VIN文档并点击确定； |
| Failure behavior 1 | 未出现时，进行后台log记录 |
| Failure behavior 2 | 未出现时，进行后台log记录 |
| Failure behavior 3 | 上传的文件类型不符合要求时，提示文件类型错误，请重新上传；  上传的文件大小不符合要求时，提示文件大小超出支持范围，请重新上传；  上传文件VIN解析失败时，提示文件解析失败，请重新上传；  上传的文件名称最多显示10个字符，如超过该长度只显示前10个字符内容； |
| Post Conditions | 无 |

##### 上传时选择“动画文件”

|  |  |
| --- | --- |
| Req ID  需求标识 | 026 上传时选择“动画文件” |
| Title  标题 | 上传时选择“动画文件” |
| Description  描述 | 1.开机视频包括：  （1）IVI & Cluster：Welcome Door Open Animation  （2）IVI & Cluster：Welcome Animation  2关机视频包括：  （1）IVI & Cluster：Farewell Door Open Animation  （2）IVI & Cluster：Farewell Animation  3.视频大小限制  单个视频应小于等于**TBD** M  4.视频格式限制  视频有效格式为：**TBD**  5.动画视频要求详见5.4.1.1 |
| Pre-Conditions | 完成“场景添加准备” |
| Trigger | 点击场景添加按钮 |
| Expected Behavior | 1.点击“Welcome Door Open Animation 上传” or “Welcome Animation上传” or “Farewell Door Open Animation上传”or “Farewell Animation上传”;弹出文件选取页面  2.选择指定的视频文件点击确定；  3.上传按钮右侧出现绿色进度条；  4.进度条完成后出现预览图标；  5.点击预览，可播放已载入页面的视频； |
| Failure behavior 1 | 未出现时，进行后台log记录 |
| Failure behavior 2 | 上传的视频类型不符合要求时，提示文件类型错误，请重新上传；  上传的视频文件大小不符合要求时，提示文件大小超出支持范围，请重新上传；  上传的视频文件名称最多显示10个字符，如超过该长度只显示前10个字符内容； |
| Failure behavior 3 | 未出现时，进行后台log记录 |
| Failure behavior 4 | 未出现时，进行后台log记录 |
| Failure behavior 5 | 无法播放视频时，进行后台log记录 |
| Post Conditions | 无 |

##### 提交“场景添加”

|  |  |
| --- | --- |
| Req ID  需求标识 | 027 提交“场景添加” |
| Title  标题 | 提交场景添加 |
| Description  描述 | 相关信息填写无误后，执行提交动作，完成场景添加 |
| Pre-Conditions | 1.完成4.2.3.2场景添加中，所有USE CASE； |
| Trigger | 点击“场景提交”按钮 |
| Expected Behavior | 1.显示“场景提交完成”； |
| Failure behavior 1 | 提示场景提交失败，并在页面提示场景失败原因，且在后台记录log |
| Post Conditions | 无 |

##### 动画文件上传云端

|  |  |
| --- | --- |
| Req ID  需求标识 | 028 动画文件上传云端 |
| Title  标题 | 动画文件上传云端 |
| Description  描述 | 1.提交“场景添加”按钮后，被导入网页端的的动画文件进行云端上传动作；  2.视频上传支持断网续传；  3.上传过程中、上传完成、上传失败均需要有状态给到portal端作为状态显示；  4.视频未上传成功时，新增的场景信息不会更新到“场景库”中供车端查询；  5.视频上传成功后，将新增的场景信息更新到“场景库”中供车端查询；场景信息中需要包含“已启用”与“未启用”，车端查询到新增动画未未启用时无需下载；  6.视频上传时应进行加密处理 |
| Pre-Conditions | 1.完成4.2.3.2.7提交场景添加 |
| Trigger | 点击“场景提交”按钮，且界面显示为场景提交完成 |
| Expected Behavior | 1.跳转回场景管理页面；  2.显示出刚刚已经提交的场景，是否启用置灰，动画状态显示正在上传；  3.（上传完成后）手动刷新或自动刷新，动画状态显示上传成功，是否启用变为可选；场景提交完成以后，启用状态默认为“未启用”； |
| Failure behavior 1 | 无 |
| Failure behavior 2 | 新增场景显示不出来时，后台记录Log |
| Failure behavior 3 | （1）一直处于上传状态，后台可以进行log记录  （2）上传失败时，后台记录Log，是否启用依旧置灰，提示运营团队删除此信息并重新上传。 |
| Post Conditions | 无 |

##### 场景名称填写

|  |  |
| --- | --- |
| Req ID  需求标识 | 029 场景等级选择 |
| Title  标题 | 场景等级选择 |
| Description  描述 | 为每个场景制定优先级策略，当同时启用多个场景时，车端可以根据场景优先级来选择当前播放的动画；  共3个等级，3级优先级最高，1级优先级最低 |
| Pre-Conditions | 完成“场景添加准备” |
| Trigger | 点击场景添加按钮 |
| Expected Behavior | 1.打开Portal端后，场景添加按钮出现，点击场景添加后弹出场景添加页面；  2.选择场景等级， |
| Failure behavior 1 | 无 |
| Failure behavior 2 | 无法选择时在后台记录log用于问题分析 |
| Post Conditions | 无 |

#### 场景删除



##### 场景删除准备

|  |  |
| --- | --- |
| Req ID  需求标识 | 031 进行场景删除 |
| Title  标题 | 进行场景删除的需求描述 |
| Description  描述 | 运营团队打开CMS portal网页，点击场景添加按钮后，弹出上传弹框。 |
| Pre-Conditions | 打开CMS portal网页  网络正常  已完成登录 |
| Trigger | 点击场景删除按钮 |
| Expected Behavior | 1.打开Portal端后，“删除”按钮出现;  2.点击“删除场景”  3.所有场景前方都可以进行勾选 |
| Failure behavior 1 | 1.未出现时，进行后台log记录 |
| Failure behavior 2 | 2.未出现时，进行后台log记录 |
| Failure behavior 3 | 3.出现错误状态时或不可勾选的情况时，进行后台log记录 |
| Post Conditions | 无 |

##### 提交场景删除

|  |  |
| --- | --- |
| Req ID  需求标识 | 032 提交“场景删除” |
| Title  标题 | 提交场景删除 |
| Description  描述 | 1.相关信息填写无误后，执行提交动作，完成场景删除；  2.场景删除包含云端视频删除；  3.场景删除包含供车端查询的“场景库”中的信息删除；  4.场景删除包含页面端的场景删除； |
| Pre-Conditions | 1.完成场景删除准备 |
| Trigger | 点击“场景删除”按钮 |
| Expected Behavior | 1.进行云端动画文件删除完成；  2.场景库中信息删除完成；  3.显示删除完成；  4.点击取消按钮，推出删除模式； |
| Failure behavior 1 | 1.视频删除失败时，页面返回“删除失败”并在后台记录log |
| Failure behavior 2 | 2.场景库信息删除失败时，页面返回“删除失败”并在后台记录log |
| Failure behavior 3 | 无 |
| Failure behavior 4 | 4.取消按钮无反应时，后台记录log用于问题分析； |
| Post Conditions | 无 |

#### 车端Case

##### 向云端“场景库”查询动画信息

|  |  |
| --- | --- |
| Req ID  需求标识 | 041 向云端“场景库”查询动画信息 |
| Title  标题 | 向云端“场景库”查询动画信息 |
| Description  描述 | 1.车端定期向云端“场景库”进行新场景查询；  2.车端通过VIN号向车端进行查询；  3.云端根据VIN号进行消息返回；  3.查询周期未**TBD**一次；  4.云端比对时只拉取“已启用”的场景动画信息； |
| Pre-Conditions | 1.车辆启动；  2.APIM开机状态；  3.车辆已联网 |
| Trigger | 查询周期到达 |
| Expected Behavior | 1.车端使用VIN码向车端请求动画更新信息，内容可以是车端所有已存储动画信息；  2.云端对比已启用的动画并返回结果；  （1）当对应VIN号无更新动画时，云端向车端返回无更新；  （2）当对应VIN号有更新动画时，云端向车端返回有更新及下载链接（or动画信息）；  （3）当对应VIN号有待删除动画时，云端向车端返回需要删除的动画信息 |
| Failure behavior 1 | 1.车端在查询时间到达后未发起查询，需要在本地记录log，用于问题分析。 |
| Failure behavior 2 | 2.车端发起请求后，云端接受到车端请求，但并未向车端发送当前状态或比对结果，云端需记录log用于问题分析； |
| Post Conditions | 无 |

##### 下载新场景

|  |  |
| --- | --- |
| Req ID  需求标识 | 042 下载新场景 |
| Title  标题 | 下载新场景 |
| Description  描述 | 1.在完成查询后并确定云端有新的动画，车端进行动画信息获取及动画下载；  2.支持视频断点续传； |
| Pre-Conditions | 1.车辆启动；  2.APIM开机状态；  3.车辆已联网 |
| Trigger | 云端返回有新动画待下载， |
| Expected Behavior | 1.车端使用VIN码向车端请求待下载动画的详细信息（此次请求中可包含之前查询更新时云端返回的下载链接或动画信息，来保证需要下载的动画与之前查询时获得的待更新动画保持一致）；  2.云端核验车端信息状态，确认车端请求下载的信息有效；  3.云端向车端发送动画的详细信息（上边场景添加中的所有信息）；  4.车端更新本地的“场景清单”；  4.建立下载连接，进行动画视频下载；  5.下载完成车端进行文件完整性检查并回传下载成功至云端，单个场景下载成功车辆VIN号需在云端可查，供数据分析 |
| Failure behavior 1 | 无 |
| Failure behavior 2 | 2.云端校验发现车端请求信息存在错误，则向车端返回“错误提示”，并在云端记录log； |
| Failure behavior 3 | 3.车端在TBD时间内未收到云端反馈则记录为超时事件，并再次进行请求； |
| Failure behavior 4 | 4.建立连接失败需记录Log，供问题分析； |
| Failure behavior 5 | 5.下载过程出现中断需要在下次上电和联网的状态下继续进行下载； |
| Post Conditions | 无 |

##### 删除场景

|  |  |
| --- | --- |
| Req ID  需求标识 | 043 删除场景 |
| Title  标题 | 删除场景 |
| Description  描述 | 1.在车端发起查询后，云端返回有待删除场景，车端进行该场景的删除 |
| Pre-Conditions | 1.车辆启动；  2.APIM开机状态；  3.车辆已联网 |
| Trigger | 云端返回有待删除场景 |
| Expected Behavior | 1.车端将对应的动画文件删除；  2.车端更新本地的“场景清单”；  3.将“已完成删除”信息返回给云端； |
| Failure behavior 1 | 1.删除失败时，需记录Log用于问题分析 |
| Failure behavior 2 | 2.删除失败时，需记录Log用于问题分析 |
| Failure behavior 3 | 3.未返回“已完成删除”至云端时，统计系统默认车端未完成删除； |
| Post Conditions | 无 |

## Driving and Operation Scenarios

**#Classification:** Optional (Mandatory for Functional Safety)

**#Macro:** [Add Ins -> Add Requirement macro](http://wiki.ford.com/display/RequirementsEngineering/How+to+use+the+Specification+Templates#HowtousetheSpecificationTemplates-AddNewRequirement) (select “Scenario” as type)

**#Functional Safety:** Driving and operating scenarios which impact the functionality of the feature can be used to check, if the situation analysis in the HARA is complete

**#Link:** [RE Wiki – Driving Scenarios](http://wiki.ford.com/display/RequirementsEngineering/Driving+Scenarios?src=contextnavpagetreemode)

## Decision Tables

**#Classification:** Optional

**#Link:** [RE Wiki – Decision Tables](http://wiki.ford.com/display/RequirementsEngineering/Decision+Table).

**#Hint:** Use decision table, if behavior is not state based (in that case prefer state chart from ch. 4.1) and based purely on current inputs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input Signal 1** | **Input Signal 2** | **Input Signal 3** | **Input Signal 4** | **Output Signal** |
| Value I1 | Value I2 |  |  | Value O1 |
|  |  |  |  |  |

Table 13: Sample Decision Table

# Feature Requirements

**#Macro:** [Add Ins -> Add Requirement macro](http://wiki.ford.com/display/RequirementsEngineering/How+to+use+the+Specification+Templates#HowtousetheSpecificationTemplates-AddNewRequirement) (select “Requirement” as type)

**#Functional Safety:** In general, safety requirements are not listed here. However, it is possible that later in the development process, a non-safety requirement becomes a safety requirement. In such a case it may remain on this list.

**#Link:** [RE Wiki – How to write good requirements](http://wiki.ford.com/display/RequirementsEngineering/How+to+write+better+requirements?src=contextnavpagetreemode).

## Functional Requirements

### Error Handling

## Non-Functional Requirements

***#Hint:*** *Non-functional requirements specify some performance criteria in addition to the functional behavior given defined by the functional requirements. Timing (if not already included in the functional requirements), security details (e.g. how secure does an algorithm have to be) reliability (e.g. mean time between failure) or maintainability could be specified in this section.*

### Safety

**#Hint:** Only those safety requirements, which are not related to Functional Safety (ISO26262) should go here. For Functional Safety refer to chapter 6 “Functional Safety”.

### Security

#### 接口信息加密

车端与云端传输带有VIN号的接口消息时，需要进行加密处理，加密方式采用TBD;

#### 视频传输加密

上传视频至云端时，需要进行加密传输，加密方式采用TBD；

云端与车端进行视频传输时，视频数据需要进行加密传输，加密方式采用TBD；

### Reliability

## HMI Requirements

**#Hint:** Requirements in this section could specify details of e.g. the icons, the GUI or the sounds.

## Other Requirements

### Design Requirements

***#Hint:*** *Requirements of a Logical Function should be typically agnostic of their SW/HW implementation*. If for specific reasons the function owner needs to define explicitly design constraints on the solution, it can be done in this chapter.

#### 动画视频要求

##### 上传要求

每次上传的动画均以整套为单位上传，CDX707项目一套动画包含“Welcome Door Open Animation、Welcome Animation、Farewell Door Open Animation、Farewell Animation”四部分；

##### 动画格式要求

动画格式只能采用如下格式：TBD，上传非此范围内的视频文件至云端时会报错；

##### 动画大小要求

动画大小需要小于TBD M，上传大小的视频文件至云端时会报错；

##### 命名规则

动画视频需要按照福特统一的动画视频命名规则。同一套动画中，各视频的命名具备关联性，便于分类。

#### 信息收集需求

#### 下载成功车辆信息统计

##### 下载成功信息统计

场景添加并激活之后，目标车辆中已下载完成和未下载完成的数据可以在云端进行查询；便于锁定车辆后续进行问题分析；

##### 删除成功车辆信息统计

场景删除之后，通过车端返回的“已完成删除”消息，统计已成功删除和未成功车辆的信息；便于锁定车辆后续进行手动删除；

#### 动画播放要求

##### 新动画播放策略

（1）动画视频下载完成后，当前点火循环内不执行新动画播放，离车时仍然播放之前的farewell动画；建议在用户触发离车时将动画选取路径切换为新的动画路径，避免用户下次开门时无法播放新的开门动画；

（2）同时存在多个新增动画，且动画均在有效期内时，按照动画等级选择优先级最高的动画进行播放；

（3）高优先新增动画失效时（查询到删除或超过有效显示时间），下次播放则播放剩余优先级最高的的动画，所有新增动画均失效时，播放默认动画。

（4）每次整车网络唤醒时，需检查当前已有动画的有效时间；

#### 账号权限要求

账号共分为两类：（1）管理员账号，（2）普通用户

##### 管理员账号权限

管理员账号具备以下权限：

（1）添加场景，

（2）启用/关闭场景，

（3）删除场景；

（4）编辑场景；

##### 普通用户权限

普通用户具备以下权限：

（1）添加场景，

（4）编辑场景；

#### 流量类型

TBD

### Manufacturing Requirements

### Service Requirements

**#Hint:** Requirements in this section could specify, e.g. what needs to be considered, if individual ECUs are replaced or new SW is flashed to ECUs (parameter set in non-volatile memory might get inconsistent and needs also to be updated).

### After Sales Requirements

**#Hint:** Requirements in this section could specify, e.g. input for the Owner’s Manual could be gathered.

### Process requirements

**#Hint**: Requirements in this section are relevant for the development process of the feature, e.g. ISO26262 compliance.

# Functional Safety

**#Classification**: Functional Safety only

**#Hint:** This section is dedicated to the Ford Functional Safety (ISO26262) process. For details of this process refer **#Link:** [Ford Functional Safety Sharepoint](https://pd3.spt.ford.com/sites/GlobalFunctionalSafety/Pages/default.aspx)

**#Contact:** [*RE Wiki Roles & Responsibilites page – Role: Application Functional Safety Engineer*](http://wiki.ford.com/display/RequirementsEngineering/Default+Contacts+for+Stakeholder+Roles#ApplicationFunctionalSafetyEngineer)

## System Behaviors for HARA

**#Classification**: Functional Safety only

**#Hint:** List of selected system behaviors is an input to the Hazard Analysis and Risk Assessment (HARA). There needs to be a rationale why other system behaviors / functions are not considered.

|  |  |
| --- | --- |
| ID | Name |
| **F\_ATC\_U0002** | Tilt the vehicle body |

Table 14: System Behaviors for HARA

## Safety Assumptions

**#Hint:** Copy the assumptions from the document "FFSD 02 Hazard Analysis and Risk Assessment”, Tab. “2 - Assumptions” with “Ref/ID”, “Name”, “Category”, “Description”, “Purpose”. In this document, additionally a reference to the requirement ID is inserted.

**#Link:** [Functional Safety Sharepoint](https://pd3.spt.ford.com/sites/GlobalFunctionalSafety/Pages/default.aspx) – HARA

|  |  |  |
| --- | --- | --- |
| ID | Assumption | |
| **1** | **Name** |  |
| **Description** |  |
| **Purpose** |  |
| **Category** |  |
| **Related Requirements IDs** |  |
| **2** | **Name** |  |
| **Description** |  |
| **Purpose** |  |
| **Category** |  |
| **Related Requirements IDs** |  |

Table 15: Functional Safety Assumptions

## Safety Goals

**#Classification**: Functional Safety only

**#Hint:** The list of Functional Safety Goals is an output of the Hazard Analysis and Risk Assessment (HARA) and therefore not required during the initial creation of the Feature Document.

**#Link:** [Functional Safety Sharepoint](https://pd3.spt.ford.com/sites/GlobalFunctionalSafety/Pages/default.aspx) – HARA

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Goal | | | |
| **1** | **Goal Name** |  | | |
| **Description** |  | | |
| **Safety Goal Concept** | <fill in Safety Goal Concept incl. the Warning & Recovery Concept and also the Safe Statel> | | |
| **ASIL** |  | **FTTI** | <fill in Fault Tolerant Time Interval (if applicable)> |
| **Related FSR IDs** |  | | |
| **2** | **Goal Name** |  | | |
| **Description** |  | | |
| **Safety Goal Concept** | <fill in Safety Goal Concept incl. the Warning & Recovery Concept and also the Safe State> | | |
| **ASIL** |  | **FTTI** | <fill in Fault Tolerant Time Interval (if applicable)> |
| **Related FSR IDs** |  | | |

Table 16: Functional Safety Goals

## Functional Safety Requirements

**#Classification**: Functional Safety only

**#Hint:** The section lists the Functional Safety Requirements (FSRs) derived from a Safety Goal and Assumptions.

The following should be noted for the use of the attribute fields for FSRs

- The “Source Req” trace link field in each FSR should have a reference to

- a safety goal in ch. 6.3 “Safety Goals” or

- an assumption in ch. 6.2 “Safety Assumptions”

**#Link:** [Functional Safety Sharepoint](https://pd3.spt.ford.com/sites/GlobalFunctionalSafety/Pages/default.aspx) – Functional Safety Concept

[RE Wiki - Requirements Attributes](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes)

### <Goal 1 Name>

### <Goal 2 Name>

### Derivation of Requirements on Assumptions

**#Classification**: Functional Safety only

**#Hint:** Derive requirements from the Assumptions (refer to section “Safety Assumptions”

## (Decomposed) Functional Safety Requirements

***#Classification:*** *Functional Safety Only*

***#Hint:*** *For ASIL D features additional measures like a requirements decomposition might be required. Fill out the following table for each ASIL D decomposition applied in the feature. The decomposition rationale is the reason why the decomposition was performed, whereas the rationale for each requirement expresses the reason and thought behind that particular requirement and should include how the requirement is able to independently fulfill the needs of the parent requirement.*

***#Link:***[*Functional Safety Sharepoint*](https://pd3.spt.ford.com/sites/GlobalFunctionalSafety/Pages/default.aspx) *- Functional Safety Concept*

| Initial Safety Requirement | Functional Safety Requirement X | |
| --- | --- | --- |
| Decomposition Rationale |  | |
| Method for Decomposition | Choose a Method | |
| Functional Safety Requirement 1 after Decomposition | F-S-Req-ID |  |
| F-S-Req. Title |  |
| ASIL |  |
| Rationale |  |
| Allocated to |  |
| Functional Safety Requirement 2 after Decomposition | F-S-Req-ID |  |
| F-S-Req. Title |  |
| ASIL |  |
| Rationale |  |
| Allocated to |  |
| Functional Safety Requirement for Independence  *Note: should consider commonly used input, output and processing*  *Note: additional row should be added if additional* *requirements for Independence are necessary* | F-S-Req.-ID |  |
| F-S-Req. Title |  |
| ASIL |  |
| Rationale |  |

Table 17: Requirements Decomposition Table

# Architecture

## Functional Architecture

**#Classification:** Mandatory for Functional Safety – otherwise optional

**#Hint**: This section depicts the coarse Functional Architecture. This architectural step is needed to find the right functional partitioning for the function level. The function shown here are those, which are specified on function level. Either SysML activity diagrams or Data Flow Diagrams could be used to depict such a Functional Architecture. For bigger features, which are decomposed in a hierarchical manner down to atomic functions (and which do not follow the Functional Safety process), a function tree could be given here.

**#Links:**

* Functional Decomposition: [RE Wiki – Functional Decomposition](http://wiki.ford.com/display/RequirementsEngineering/Functional+Decomposition)
* SysML - Activity Diagrams or [RE Wiki - Data Flow Diagrams](http://wiki.ford.com/display/RequirementsEngineering/Data+Flow+Diagram?src=contextnavpagetreemodehttp://wiki.ford.com/display/RequirementsEngineering/Data+Flow+Diagram?src=contextnavpagetreemode)
* Data Flow Diagram: [RE Wiki – Data Flow Diagram](http://wiki.ford.com/display/RequirementsEngineering/Functional+Decomposition)



Figure 4: Functional Boundary Diagram

### List of Functions

**#Hint:** The functions shown in the Functional Architecture should be listed and described in the table below

| Function Name | Description | Comments |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Table 18: List of Functions

## Logical Architecture

**#Classification:** Functional SafetyAnalysis only

**#Hint:** FS Analysis requires a description of the boundary of the feature and its elements. A simple block diagram or a SysML Internal Block Diagram could be used to depict the Logical Architecture

**#Link:** [Ford Functional Safety Sharepoint](https://comm.sp.ford.com/sites/GlobalFunctionalSafety/Pages/default.aspx)

**

Figure 5: Logical Boundary Diagram

### Logical Elements

**#Hint:** Lists the elements of the Logical Architecture and the functions from the Functional Architecture, which are allocated to those elements.

|  |  |  |  |
| --- | --- | --- | --- |
| **Element Name** | **Description** | **Allocated Functions** | **Comments** |
| e.g. Active Tilt Controller | … | e.g. Control Value |  |
|  |  |  |  |
|  |  |  |  |

Table 19: Logical Elements

### Logical Interfaces

**#Hint:** Describe the interactions of the feature with other features or elements.

|  |  |  |  |
| --- | --- | --- | --- |
| **Interface Name** | **Direction** | **Description** | **Value Range** |
| e.g. Vehicle tilt angle | e.g. Tilt angle sensor to ATC | … | e.g. -45deg to +45deg |
|  |  |  |  |
|  |  |  |  |

Table 20: Logical Interfaces

# Open Concerns

**#Hint:** The following list presents open concerns, which have to be discussed or clarified over the course of the on-going requirements engineering.

| ID | Concern Description | e-Tracker / Reference | Responsible | Status | Solution |
| --- | --- | --- | --- | --- | --- |
| 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  |  |
| 4 |  |  |  |  |  |
| 5 |  |  |  |  |  |
| 6 |  |  |  |  |  |
| 7 |  |  |  |  |  |
| 8 |  |  |  |  |  |
| 9 |  |  |  |  |  |

Table 21: Open Concerns

# Revision History

**#Hint:** A new version number is assigned to a document with a given revision each time it is checked in to Team Center (TCSE). After release of a revision, the document cannot be edited and no new versions can be created on that revision. When updating the document after that, a new revision has to be created and new versions on that revision will be created upon checking in.

| Rev.  (revision) | Date | Description | Approved by | Responsible |
| --- | --- | --- | --- | --- |
| *001* |  | *Initial version* |  | *Jbaden1* |
|  |  |  |  |  |

## Template Revisions

*#Important: Do not change this section*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Version | Rev. | Date | Description | Responsible |
| *0* | *6* | *2015-05-26* | * *Chapter “Feature Overview” and made a 2nd level heading.* * *Chapter “Feature Modeling” divided into 3 subchapter (“Scenarios”, “Use Cases”, “State Machines”) for different modeling methods* | *Jbaden1* |
| *0* | *7* | *2015-05-27* | * *Table of Content updated* * *Template Revision History chapter added* | *Jbaden1* |
| *0* | *8* | *2015-07-02* | * *Section “Unsettled Issues” added* | *Alevin7* |
| *0* | *9* | *2015-08-04* | * *Section “Feature Variants” added* * *Section “Feature Boundary Diagram” renamed to “Feature Context Diagram”* * *Document Properties adapted to match needs of VBA macros* | *Jbaden1, Awegman1* |
| *1* | *0* | *2015-09-11* | * *Section “Feature Variants” reworked* * *Feature Goals removed. Only “Safety Goals“ chapter remains.* * *Heading 2 formatting issues corrected.* * *Requirements / Use Cases Listing removed from traceability chapter.* * *Formatting of attribute table in Notation chapter corrected* * *Open Topics / Known Issues chapter moved to the end* | *Jbaden1* |
| *1* | *1* | *2015-11-16* | * *Table-Styles removed (for smooth VSEM import)* * *Some clean-up of sections “Purpose” and “Audience”* | *Awegman1, jbaden1* |
| *1* | *2* | *2016-02-26* | * *Minor corrections based on lessons learned from CC and PCL pilot (e.g. section market/regions) and discussion with Functional Safety Team (purpose of feature)* * *Footer corrected* * *Boundary diagram interface chapter renamed to influences.* | *Jbaden1* |
| *1* | *3* | *2016-02-26* | * *Minor corrections after review with Whitney Keith from Functional Safety team* | *Jbaden1* |
| *1* | *4* | *2016-03-10* | * *Some cleanup of meta-data in Word Properties* | *Jbaden1* |
| *1* | *5* | *2016-03-10* | * *Footer formatting corrected (Issue 19)* * *Results from review with Functional Safety Team incorporated (Issue 20).* | *jbaden1* |
| *1* | *6* | *2016-04-18* | * *Scenario Template added* | *Jbaden1* |
| *1* | *7* | *2016-04-18* | * *Chapter “Operation Modes and States” moved before “Use Case” section.* | *Jbaden1* |
| *1* | *8* | *2016-04-18* | * *Broken Wiki links repaired.* | *Jbaden1* |
| *2* | *0* | *2016-05-19* | * *Adapted to Specification\_Macros.dotm V2.0* * *Requirements Templates chapter (ch. 1.7.1) no longer has an attribute table, but refers directly to the Wiki..* | *Jbaden1* |
| *2* | *1* | *2016-06-10* | * *Table for Context Diagram modified (lists external entities and Influence Description only)* | *Jbaden1* |
| *2* | *2* | *2016-07-08* | * *Template version added to footer* * *Several hints added to the various sections* * *Findings from Functional Safety Team incorporated.* * *RE\_SafetyRequirement style added* | *Jbaden1* |
| *2* | *3* | *2016-09-21* | * *Update from Functional Safety Team incorporated (“Lessons Learned”, “System Behaviors for HARA”)* | *Jbaden1* |
| *2* | *4* | *2016-11-15* | * *Update from Functional Safety Team incorporated (“Lessons Learned”, “System Behaviors for HARA”)* * *Explanatory notes made more formal* | *Jbaden1* |
| *3* |  |  | *Skipped to synchronize with Specification\_Macros.dotm* |  |
| *4* |  |
| *5* | *0* | *2017-01-13* | * *Meta data updated for specification macros, version 3.1* * *SW Unit chapter removed for the time being* * *Green boxes added for user hints* | *Jbaden1* |
| *5* | *1* | *2017-01-18* | * *Minor editorial changes* | *Jbaden1* |
| *6* | *0* | *2017-02-03* | * *CR48: Chapter 6 renamed from “Safety” to “Functional Safety”. New sub-chapter “Safety” introduced in Non-Functional Requirements section* | *Jbaden1* |
| *6* | *0* | *2017-04-28* | * *CR7: “RequirementsTraceability” chapter removed* | *Jbaden1* |
| *6* | *0* | *2017-11-15* | * *CR32/53: New Cover Sheet + Disclaimer replaces FAP-150 like ones.* * *CR75: Some rewording -> Terminology to Glossary, Notation -> Document Conventions* * *CR49: Rename “Assumptions & Constraints” to “Assumptions”* * *CR74: Safety Assumptions added to chapter 6.* * *CR58: Add function allocation column to Logical Architecture chapter* | *Jbaden1* |
| *6* | *0* | *2018-01-31* | * *CR63: Updated links to Functional Safety Sharepoint* | *Jbaden1* |
| *6* | *0* | *2018-07-24* | * *CR69: Add FSR to FeatureDoc* * *CR64: Add new section "Design Requirements" to Function Spec and Feature Spec* | *Jbaden1* |
| *6* | *0* | *2018-08-06* | * *CR53: some corrections for metada and formatting* | *Jbaden1* |
| *6* | *0* | *2018-09-28* | * *Broken links to RE Wiki repaired* | *Jbaden1* |
| *6* | *0* | *2018-10-31* | * *Cover sheet and footer more GIS like. Functional Safety team feedback incorporated:*   + *New subsections “Functional Safety Requirements, (Decomposed) FSRs and Parameters / Values*   + *Removal of “Logical Architecture”* | *Jbaden1* |
| *6* | *0* | *2018-12-12* | * *FSR template removed, now as a macro in the Specification\_Macros.dotm* | *Jbaden1* |
| *6* | *0a* | *2019-05-23* | * *Re-introduce “Logical Architecture” (for Functional Safety)* | *Jbaden1* |
| *6* | *0b* | *2019-06-26* | * *Chapter “Logical Elements” in “Logical Architecture” section added (FuSa CR 15136240)* * *“References” and “Glossary” chapter moved from section “Feature Overview” to “Introduction”. References and Glossary should be available in the document as early as possible* | *Jbaden1* |

# Appendix

Document ends here.