Product Specification and Requirement Document Template

Purpose

This document is designed to clearly outline the project requirements and features. It is an iterative process, sometimes it may be possible to skip or reduce certain steps, but please give a reason as to why. Sometimes you may only go through the process once as part of a thesis, however, always remember that a feature doesn't become obsolete with the end of your thesis, you are doing really work which will continue to be a part of the project for a long time.

Iteration 1: Initial Draft

Start by filling out the document based on initial ideas. This could be based on literature, existing interviews, or other considerations. Pay attention to tracking the sources for each claim, even if something is just your personal intuition, note it down with that exact reason.

Iteration 2: Validate Mockup Draft

After creating a first mockup based on requirements, validate it through interviews or literature research. Then, update the document with new findings.

Iteration 3: Validate Software Implementation

After implementing the requirements as software, results from final interviews and other considerations should be added to the document.

Part 1: Customer Requirements

This section is the beginning of understanding what the user needs and help to later specify app features.

Persona

This section is the beginning of understanding what the user needs and help to later specify app features.
Start to fill it out based on your current knowledge and later link to user needs to proove your statements.

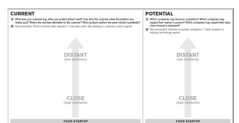
Persona

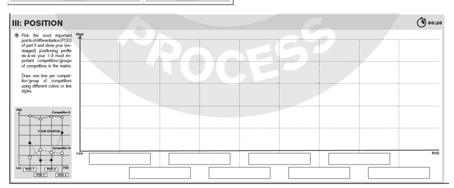
Name: ...	Role: ...	Picture of the persona (input here)
Which background does the persona have?	Why does the persona use the product?	Which benefits does the persona expect?
...	...	...
Which features does the persona expect?	What is the customer journey of the persona?	Which arguments against usage does the persona have?
...	...	...

Competitors

Identify competitors that serve similar needs or propose similar solutions and analyse how their solutions work.

Write most importat features (POD) in the Position diagram for each competitor.





User needs

Then formulate **User Needs** as user stories in the form: I want to <do something>, so that I <achieve something> from the user perspective. Ideally, these should be based on interviews with users, and recorded in the following table.
Each row should be an individual user need.

User Needs List

User Need ID Formulate a need ID: UN_Feature_Number	Stakeholder Which stakeholder is expressing the need?	User Need Description Formulate the user needs as user stories.	Thematic Area Into which thematic area does the need fall?	Importance Rate the importance of the idea from 1 - 10 based on the number of users and general importance.	Source State source for each of the user need statements you make.
xxxx	xxxx	xxxx	xxxx		xxxx
...	...	...	...		...
xxxx	xxxx	xxxx	xxxx		xxxx

Stakeholder Requirements

Based on **User Needs**, literature, user interface guidelines, and other considerations, define **Stakeholder Requirements**, focusing on the product from a non-customer perspective, and detailing high-level desired features. **Stakeholder Requirements** should be formulated in the following way: The <product> must <ensure X or provide Y>.

Stakeholder Requirements List

Stakeholder Requirements List Stakeholder Requirement ID Formulate a requirement ID: SR_feature_number	Stakeholder Which stakeholder is the requirement coming from?	Requirement Description Formulate the requirement: The <product> must <ensure X or provide Y>	Thematic Area In which thematic area does the requirement fall?	Type of Requirement Is it a functional or non-functional requirement?	Source State the source of the requirement.
xxxx	xxxx	xxxx			xxxx
...	...	...			...
xxxx	xxxx	xxxx			xxxx

Legend: Stakeholder Requirement ID: Specify a unique number (example SR2), Stakeholder: Specify the stakeholder (example Beneficiary, Medical Professional, Coach), Requirement description (example The beneficary app must provide an overview of the daily steps), Source: Specify from where you derived this requirement (example User Need 1, Literature including citation with page, User Interface Guideline, etc)

Part 2: Requirement Specification Document

In this section, the high level stakeholder requirements should be translated into detailed software features, so that they can be implemented in a next step. Also, possible risks are investigated.

Software Requirements

Template: The <product> must <ensure X or provide Y>

Based on **Stakeholder Requirements**, define **Software Requirements** that give concrete instructions about technical implementation and user interface. Each **Stakeholder Requirement** has normally multiple **Software Requirements**.

Choose one of the following **categories** for each requirement, that fits the best: functional and performance requirements, in- and output requirements, interface requirements, alarm and warning requirements, data security requirements, usability requirements, data requirements, installation requirements, Requirements regarding methods of operation and maintenance, IT-network requirements, operator maintenance requirements, regulatory requirements

For each Software Requirement think about possible failure modes (how could this software element, function, UI-element, input fail?) that can cause user harm. If you can think of a harmfull failure mode, please add a Risk ID to the Software Requirements List and to the Risks List below.
Afterwards think about whether the harm needs to be reduced, as they could have a negative influence on the user. If so, think about **Risk Control Measure** (for example show a warning to not do something, add new software features that reduce the harm as a **Risk Control Measure**). If you can think of a software related **Risk Control Measures**, add a new **Software Requirement** and mark "Is this a Risk Control Measure" in the **Software Requirements List** with **Yes**.

Software Requirements List

Software Requirement ID	Category	Software Requirement Description	Detailed Specification	Related Risk IDs	Is this a Risk Control Measure?
xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
...	...	...	...	...	...
xxxx	xxxx	xxxx	xxxx	xxxx	xxxx

Legend: Software Requirement ID: Specify the ID (example SOR1), Category: Choose a category from above, Software Requirement Description (example The beneficary app must have a blue progress bar that shows the number of daily steps as a percentage of the daily goal and must update automatically for new values), Detailed Specification: Here you can add an optional detailed specification of the exact impementation (example font size, color, location, technical specifications), Related Risk IDs: Specify any related risk IDs, Is this a Risk Control Measure: Yes or No depending on whether the requirements is controlling for risks

User Rusks and Harm

Risk ID	Assets (Software Systems, UI-Elements, Components) or Inputs	Failure Mode (How can it fail?)	Hazard (Which hazard is linked to failure?)	Harm (Which harm to patients is caused?)	Risk Control Measure Needed?	Software Requirement ID of Risk Control Measure
xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
...	...	...	...	...	...	...
xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx

Legend: Risk ID: Specify the risk ID (example RID3), Assets: Specify which element you are looking at for potential risks (example visual instructions for physical exercises for user), Failure Mode: Specify how this element could fail (example shows an exercise that is too complex for the user), Hazard: Specify which hazard could emerge (example user performs the complex exercise), Harm: Specify the harm that results (example user has an injury through wrong exercise), Risk Control Measure Needed: Yes or No, Software Requirement ID of Risk Control Measure (example 1: do not do exercises that you do not feel comfortable with, example 2: add a feature to primarily select the difficulty of exercises)

Part 3: Description of Prototype

Based on the previous findings, this section should provide a summary of the prototype you plan to implement or build based on the **Stakeholder** and the **Software Requirements**.

Goal of Prototype

Describe the goal that you want to achieve with the prototype.

Scope of Delivery

What is included in the final delivery of the project? How will results be documented?

Target Group

Describe the target group with who the prototype will be tested in a few words based on the persona.

Evaluation Method

Describe which method can be used to measure the success (example questionaire, interviews, etc.)

Connection to other areas

With which projects is your project connected?

Visualizations of the Prototype

Based on the previous sections and the Software Requirements, create visualization of the prototype such as Mockups, Sitemaps, or Use Case Diagrammes.