

## Requirement Specification

Influencing factor	Example	Notes, comments
<u>Task</u>		
Type of task	Picture recognition for ingredients, recipe output	
Objective of testing	Customer benefit	
Detailed description of the task	Receive a picture as input, analyze ingredients via AI, query a recipe with these ingredients based on other information from user	User can give information of nutrition values he/she wants in recipe
Characteristics to be validated	Classification rate, reproducibility, false-alarm rate	
Objects for validation	Ingredients and non-ingredients	
Validation procedure	Proof of capability with documentation	
Evaluation of measurement and test results	Correct and false analyzes	
Temporal requirements	Under 2 minutes	Ingredient recognition should be done in less than a minute and the query as well
Required availability	When we need it	

Influencing factor	Example	Notes, comments
<u>Test object</u>		
Range of types	Pictures of ingredients and non-edibles	

Influencing factor	Example	Notes, comments
<u>Scene</u>		
Positioning	Each ingredient should have a little gap next to another ingredient	This should make it easier and faster for the AI to differentiate between two different ingredients
Number of objects	One of a kind	Exception are things like: noodles, rice. There it should be the package?
Background	Distinguishable, clean background	There should not be a rice corn in the background, so that it doesn't get recognized as an ingredient
Size	Objects should not be too far away from the camera, so they are not too tiny.	
Movement	Ingredients should not move	
Quality	Ingredients should be in focus	
Extraneous light	Sun, lamps, any light source	Any sufficient light source, so that ingredients are visible, but not too bright, so that there are no big light reflections

Influencing factor	Example	Notes, comments
<u>Process Integration</u>		
Use of data from image processing system	Should not be saved, but directly analyzed	
Inputs and outputs	Input: ingredients Output: recipe	Based on a picture the ingredients get recognized
Operating modes	Automatic operation, manual operation	

Influencing factor	Example	Notes, comments
<u>Human Machine Interface</u>		
Operating concept	Graphical user interface, language,	
Visualization and signaling	Text and pictures	

Influencing factor	Example	Notes, comments
<u>Miscellaneous</u>		
Acceptance	Acceptance procedure	
Installation	Installation on phone	
Training	ML	Picture recognition of ingredients
Documentation	Diagrams, Documents, Mock-up for Back-End System, Mock-up for Front-End	Use-Case Diagram, Class- Diagram