SaftyApp Requirements – MAD

Team Members

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Product Scope

Saftyapp makes it easy and fun to discover, mix and enjoy smoothies, cocktails and other drinks. With a mix of gamification, ingredient-based discovery, and smart recipe suggestions, the app turns drink-making into a playful and creative experience.

At the center of the app is Safty – an animated, interactive carafe. Users can drag and drop fruits and ingredients into Safty, who reacts with facial expressions and recommends a recipe based on the current mix. The app also suggests up to three alternative recipes, so users can try out different options.

Every time a user completes a recipe — confirmed by uploading a photo of the final drink — they earn Experience Points (XP). XP unlocks new ingredients and more complex flavor possibilities. This progression system ensures beginners aren't overwhelmed with options and gives experienced users new layers of creativity to unlock over time.

Advanced users can earn the title of "Advanced Juicy Maker", unlocking the ability to create their own recipes.

In addition to the playful creation mode, Saftyapp also includes a manual recipe search: users can select available ingredients and instantly browse matching recipes. This mode is perfect for situations where users want to use the plain old selection mode with manual recipe search.

This document focuses on the Frontend App, built in Kotlin using Jetpack Compose for Android. The frontend interfaces with a recipe API (either third-party or custom-built), which handles ingredient-based filtering and user progress tracking.

Functional Requirements

ID	User Story	Acceptance Criteria	Prio	Responsible
1	As a user, I want Safty to show different expressions when I mix ingredients into Safty so that I can get feedback based on what I'm mixing.	Given that I am in the home screen, when I add ingredients to Safty, then Safty changes their expression depending on their evaluation.	Must	Mihael
2	As a user, I want to automatically get recipe suggestions based on the ingredients I add into Safty so that I can quickly discover drinks that match the current ingredient selection.	Given that I add ingredients into Safty, when Safty analyzes the combination, then a main recipe and up to three alternatives are displayed based on current ingredients.	Must	Corinna
3	As a user, I want to view a list of all available ingredients so that I can discover and select the ingredients I want to use in my recipe.	Given that I access an area where ingredients are selected, I should have a scrollable list of ingredients with icons and a way to select or deselect ingredients.	Must	Konstantin
4	As a user, I want to click a "finished" button after making a drink so that I can gain XP and mark it as completed.	Given that I've prepared a drink by following a suggested recipe, when I click the "finished" button, then the system awards XP and marks the recipe as completed.	Must	Mihael
5	As a user, I want to unlock new ingredients as I gain XP so that I can experiment with more advanced and creative drink combinations over time.	Given that I've earned enough XP to reach a new threshold, when I view my ingredient list, then new ingredients are automatically unlocked, and I receive a visual cue showing what's new.	Must	Corinna
6	As a user, I want to see how much XP I have and how close I am to the next unlock so that I can track my personal progress and stay motivated.	Given that I am using the app, when I am on the home screen, then I can see a visual indicator tracking my current XP progress.	Must	Konstantin

7	As a user, I want to see Safty, my XP and my current title on the home screen so that I can immediately interact with Safty and view my personal progress.	Given that I am using the app, when I am on the home screen, then I can see and interact with Safty, and view my current XP and title.	Must	Mihael
8	As a user, I want a navigation menu, so that I can easily navigate through the different screens of the app.	Given that I am using the app, when navigation elements are clicked in the menu, then I am navigated to the corresponding screen.	Must	Corinna
9	As a user, I want to view all available recipes in the recipe screen and optionally filter them by selecting ingredients from a list so that I can explore all recipes freely.	Given that I am on the recipe screen, when I don't apply any filters, then I can view the full list of all available recipes.	Should	Konstantin
10	As a user, I want to filter the recipes manually based on the ingredients I've selected in the recipe screen so that I can quickly find appropriate recipes.	Given that I select one or more ingredients in the recipe screen, when I apply the ingredient filter, then the system displays only recipes that use those ingredients.	Should	Mihael
11	As a user, I want to receive textual feedback from Safty when I mix ingredients into Safty so that I can understand how Safty evaluates my combinations.	Given that I am in the home screen, when I add ingredients to Safty, then Safty provides textual comments based on the evaluation of the combination.	Should	Corinna
12	As a user, I want to receive a recommendation from Safty for which ingredient to add next so that I can create the best possible mix.	Given that I have added an ingredient into Safty, when Safty analyzes possible recipes based on the current selection, then Safty recommends which ingredient I should add next.	Should	Konstantin
13	As a user, I want to take a picture of my prepared drink in the app so that I can gain extra XP for executing the recipe.	Given that I have prepared a drink by following a suggested recipe, when I take a picture of the drink through the app, then the system confirms the upload and awards extra XP as a bonus.	Should	Mihael
14	As a user I want to obtain the "Advanced Juicy Maker" title when hitting a certain XP milestone, so that I can obtain special privileges and a sense of progression.	Given that I have gained enough XP, when completing recipes, then the system rewards me with the "Advanced Juicy Maker" title.	Should	Corinna
15	As a user with the "Advanced Juicy Maker" title, I want to create my own recipes so that I can expand my local recipe collection and use my custom recipes in future drink creations.	Given that I have earned the "Advanced Juicy Maker" title, when I click on "create new recipe" in the menu, then I can create and save my own recipes to my personal collection.	Should	Konstantin
16	As a user, I want to see my completed recipes and uploaded pictures in the archive screen so that I can revisit the drinks I've already prepared and see how they turned out.	Given that I have completed recipes in the past, when I am on the archive screen, then I can view the drinks I have already made along with the corresponding uploaded pictures.	Could	Mihael
17	As a user, I want to be able to drag and drop ingredients so that adding ingredients feels more fluid.	Given that I am on the home screen, when dragging and dropping an ingredient above Safty, then the ingredient is used for the recipe recommendations.	Could	Corinna
18	As a user, I want the app to play a special effect when I add multiple unsuitable ingredients against Safty`s recommendation, so that the app adds humor to my questionable cooking choices and keeps the experience entertaining.	Given that I am on the home screen, when 2–4 unsuitable ingredients not recommended by Safty are added to the drink, then a visual and/or audible effect will be played.	Could	Konstantin
19	As a user, I want to have a special effect when dropping ingredients into Safty, so that the app feels more responsive.	Given that I am on the home screen, when an ingredient is added to Safty, then a visual and/or audible effect will be played.	Could	Mihael

20	As a user,I want to be reminded by the app after not using it for a while, so that I'm encouraged to come back and make new drinks.	Given that I haven't opened the app for 3 or more days, when the time limit has passed, then the app sends out a notification reminding me to visit Safty again.	Could	Corinna
21	As a user, I want the app to automatically recognise if the picture I took shows a drink so that I only receive extra XP when the picture I took actually shows a drink.	Given that I have prepared a drink by following a suggested recipe, when I take a picture of the drink through the app, then the app should recognise if the picture shows a drink and award extra XP if it does.	Could	Konstantin

Quality of Service

ID	Requirement	Prioritization
A	The app should cache obtained recipes in a local database to reduce loading times and allow offline access.	Must
B	App data (XP, unlocked ingredients, finished recipes) must be persisted in a local database.	Must
C	The app should load the home screen within 3 seconds on average devices.	Should
D	Recipe suggestions could be generated within 3 seconds after ingredients are dropped into Safty.	Could