Team Pacman

- Final Presentation -

Team Pacman

***Julia**

Human Factors
Engineering

***Chrissi**

Human Factors
Engineering

[12, 13]

Interviews

- iteration 1 -

"I always have a type of food in mind but **cannot find the right recipe**!"


[16]

"Sometimes I am **worried** about **not having all the ingredients** at home!"

"I often buy ingredients when there are special offers & check what to prepare with it afterwards!"


[15]

"I am **disappointed** when a dish **did not turn out well**!"

"I am **annoyed** when I'm **struggling to find a recipe**!"

Daniel PERSONA


[14]

"I cook because it's fun to get hands-on with food and experiment with flavors"

AGE: 24
OCCUPATION: Working Student
STATUS: Single
LOCATION: Munich
EDUCATION: Informatics M.Sc.
HOBBIES: Skateboard, Tennis, Soccer

NEEDS

- Get **relevant recipes** based on ingredients he **chooses**
- **Quick & easy cooking**
- Get suggestions on dishes
- Healthy dishes
- **Appealing pictures** of dish

GOALS

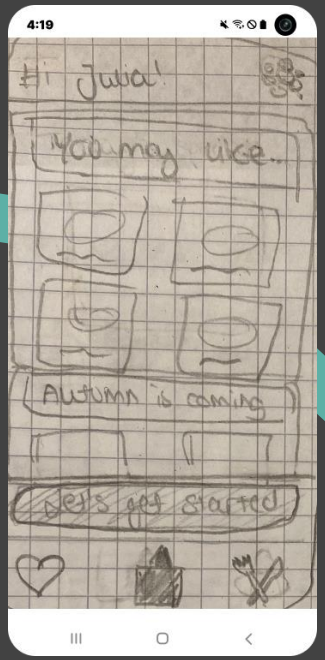
- Having fun while cooking
- Improve cooking skills
- Cook for family & friends

FEARS

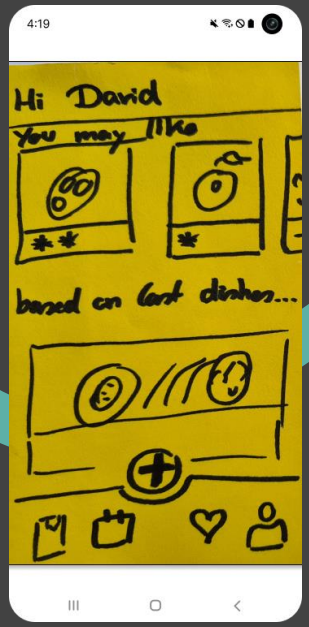
- No clue how & what to cook
- Worried about not having all the ingredients at home

How might we support people in finding **recipe inspirations** with ingredients they **already have at home** to **prepare great dishes**?

Design Iterations...



*pen & paper prototype
(iteration 1)



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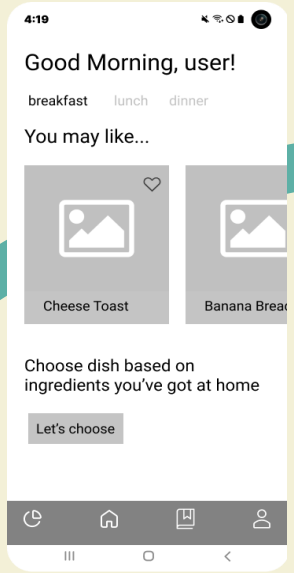
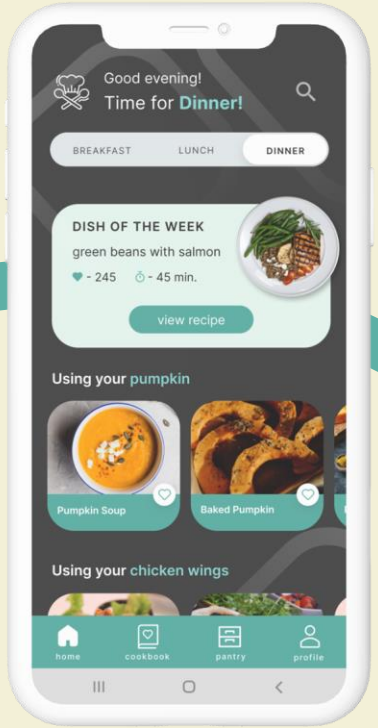
(iteration 1)



*Figma
Lo-Fi prototype
(iteration 1-2)

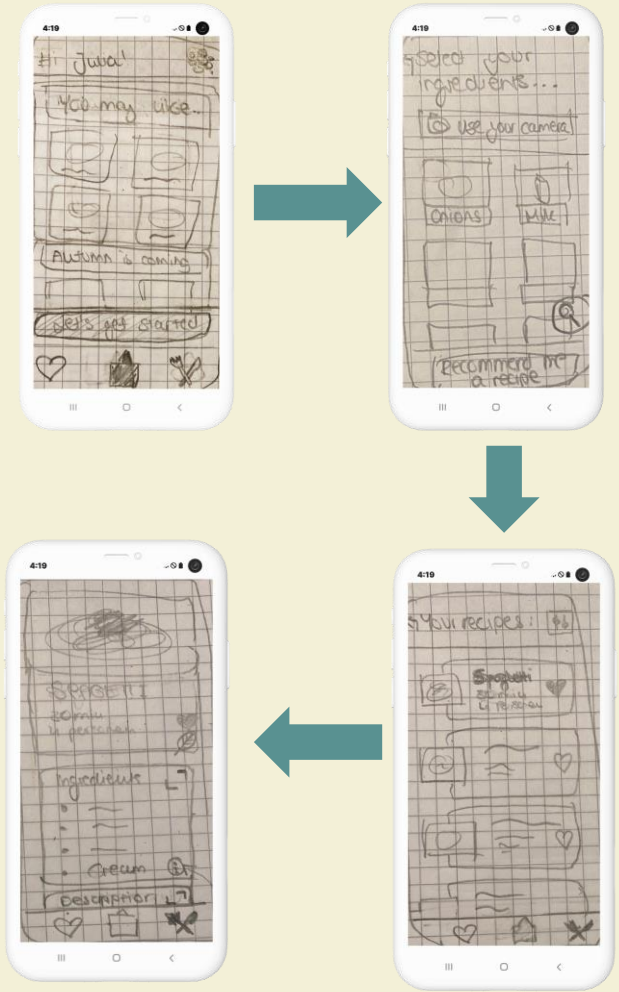


*HTML / CSS / JS
Hi-Fi prototype
(iteration 3-5)

Prototyping Process

- iteration 1 -

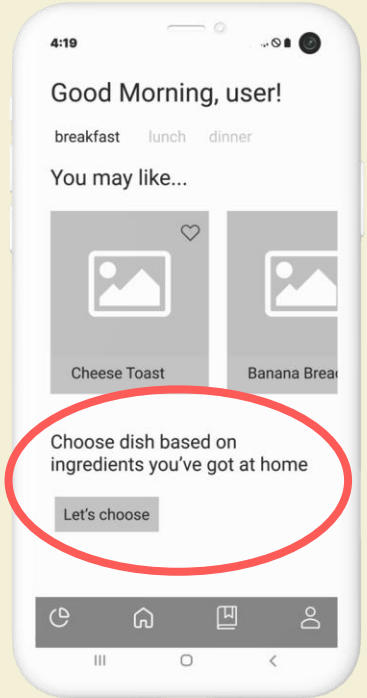
- first sketches to come up with a proper user flow
- user tests using the **"Thinking-aloud" method** [8]
- user feedback:
  - intuitive user flow
  - onboarding process too cumbersome



Prototyping Process

- iteration 1 -

- Created a **low-fidelity prototype** by using **Figma**
- Users were **not convinced** about the app design
  - more colors & pictures
  - modern app design
- **function for adding ingredients** is **too hidden**



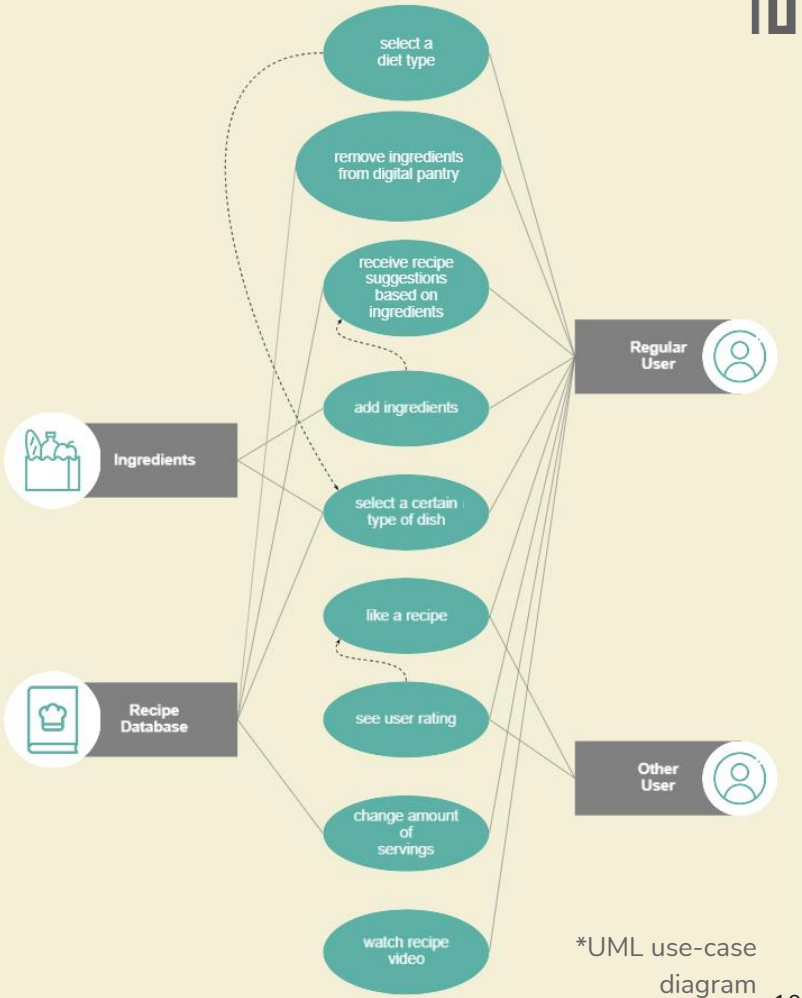
*Figma prototype (iteration 1-2)

Prototyping Process

- iteration 2 -

- Created an **UML use-case diagram** to capture the **requirements of the application** [10]

- **High level functions**:
  - add / remove ingredients
  - select a diet type
  - like a recipe & save it



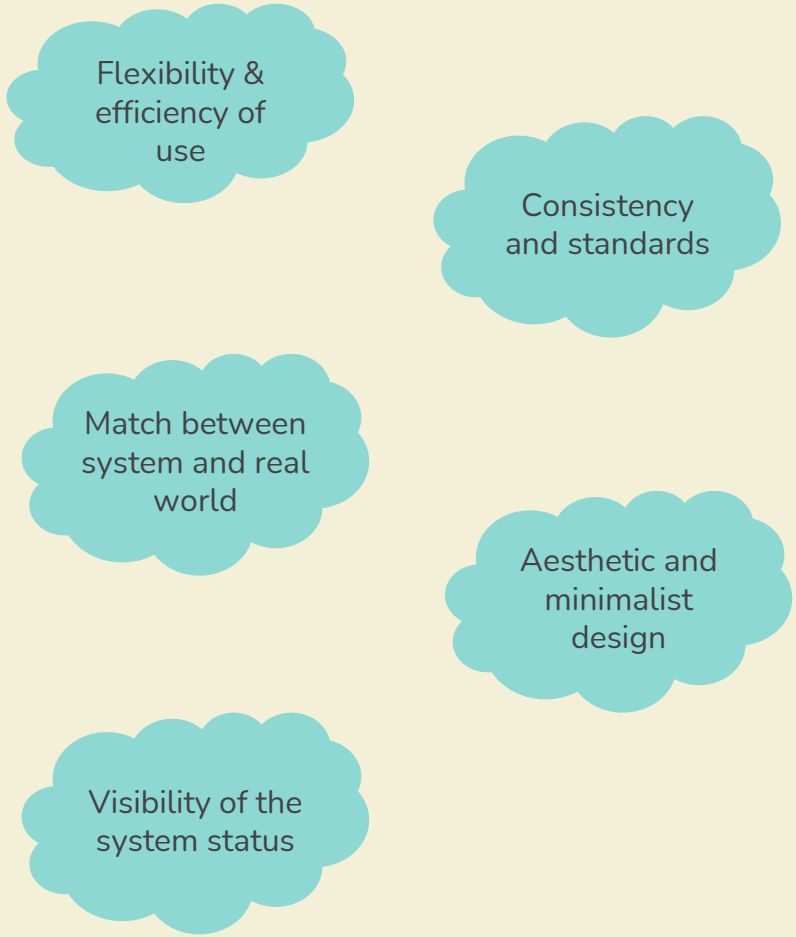
*UML use-case diagram

Prototyping Process

- iteration 2 -

Most important **design principles** [11]:

- Aesthetic and minimalist design
- Flexibility & efficiency of use
- Maintain **consistent standards** so users know what to do next without having to learn new tool sets.

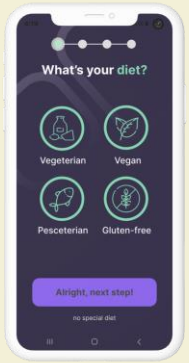


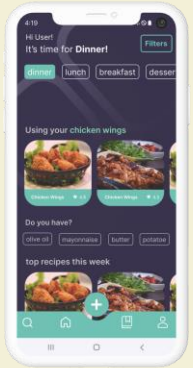
Prototyping Process

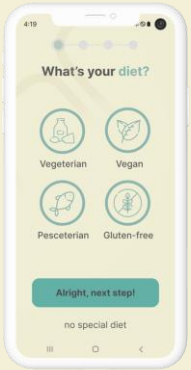
- iteration 2 -

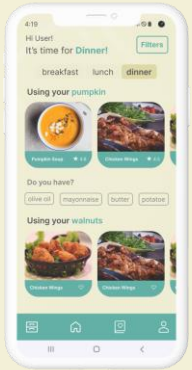
- **A/B Testings**: asked for feedback on different **color schemes & design approaches** [5, 9].

- Due to the user feedback we decided for the following color scheme & design.









Prototyping Process

- iteration 2 -

- Own customized design language based on user feedback

- Calculation of the minimum font size based on the following equation [7]:

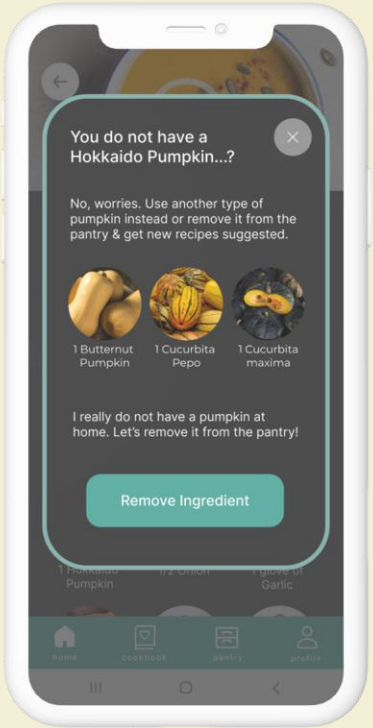
$$h = 2 \times \tan\frac{\alpha}{2} \times d$$

→ minimum: 7pt
→ recommended: 10pt

Prototyping Process

- iteration 3 -

- Added “**help screens**” which should support in getting information about a specific function, because during our interviews we got the feedback that **these screens were missing**.



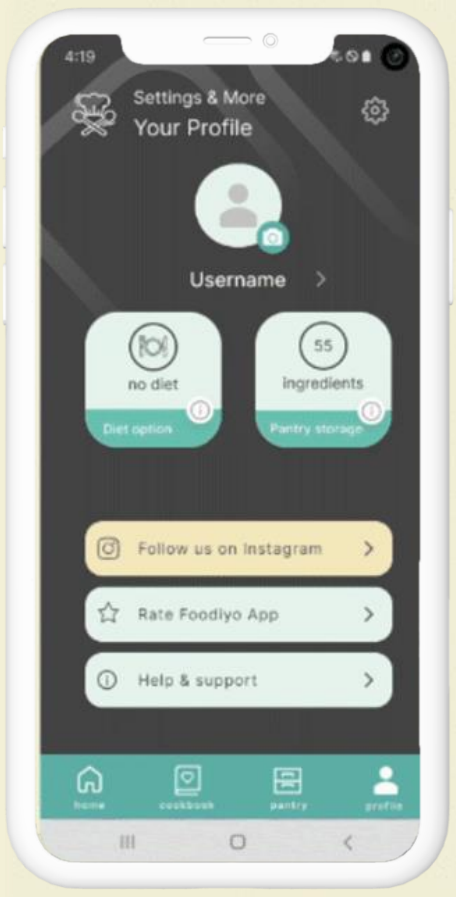
*info: removing ingredients

*info: diet options

Prototyping Process

- iteration 3 -

- Created a **user section** where the user can **set personal preferences** (e.g. change diet type & user name)



*user section

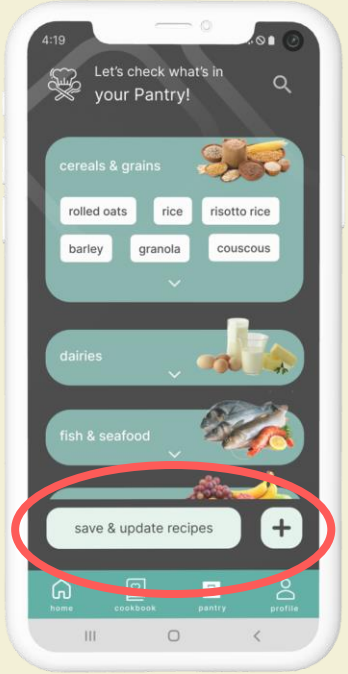
Prototyping Process

- iteration 4 -

- Users were indicating that the pantry screen within the menu section **looks way too crowded**

- Implemented an additional “plus-button” to add more ingredients to the digital pantry

*before



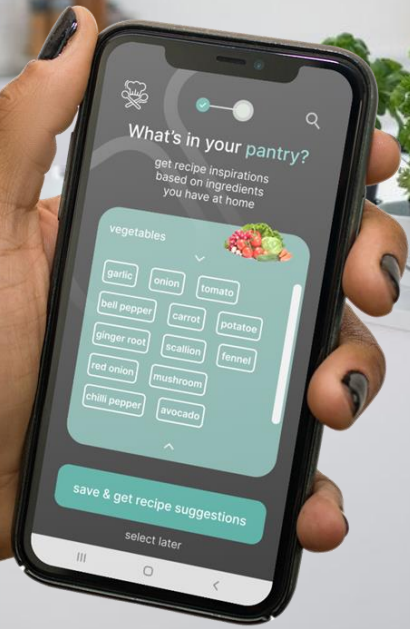
*after

Live Presentation

*HTML / CSS / JS
prototype

Quantitative Evaluation

- iteration 5 -



Let's rate the Foodiyo App

Thank for conducting the tasks. Please answer the following questions:

9.1 I like to use this app more often. *

	1	2	3	4	5	
strongly disagree	○	○	○	◉	○	strongly agree

9.2 I find this app to be more complicated than it should be. *

	1	2	3	4	5	
strongly disagree	○	◉	○	○	○	strongly agree

9.3 I think the app is simple and easy to use. *

	1	2	3	4	5	
strongly disagree	○	○	○	○	◉	strongly agree

9.4 I need technical support to use this app. *

	1	2	3	4	5	
strongly disagree	◉	○	○	○	○	strongly agree

9.5 I find the app functioning smoothly and is well integrated. *

	1	2	3	4	5	
strongly disagree	○	○	○	◉	○	strongly agree

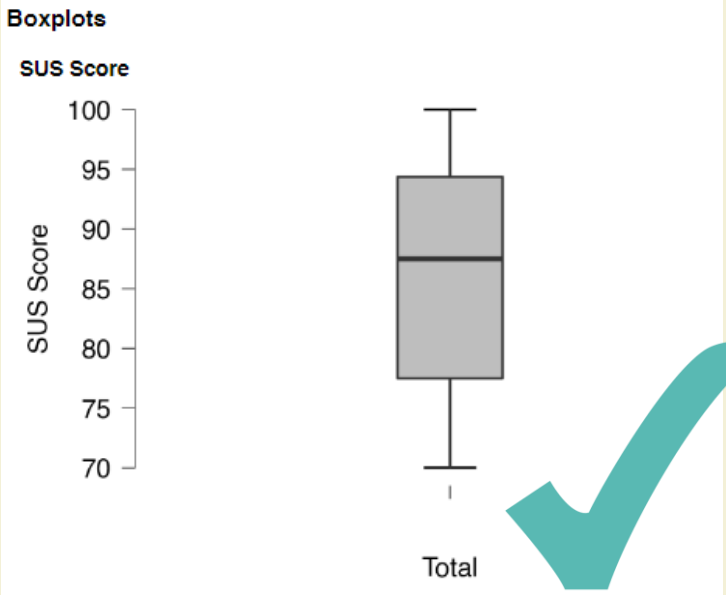
9.6 I think there are a lot of irregularities in the app. *

	1	2	3	4	5	
strongly disagree	◉	○	○	○	○	strongly agree

Quantitative Evaluation

- iteration 5 -

- Subjects do exceed a **SUS-Score of 70** regarding the complete application [1,2,4].
- This value reflects an **adjective rating** of "**excellent**" [4].



Descriptive Statistics

	Valid	Missing	Mean	Std. Deviation	Minimum	Maximum
SUS Score	10	0	86.750	10.675	70.000	100.000

***Figure 1**: Boxplot and descriptive statistics of the System Usability Scale (SUS)*

Quantitative Evaluation

- iteration 5 -

- Subjects do not make more than **4 errors** when conducting the tasks [1,2,5,6].
- Subjects complete tasks 1-5 with a **completion rate of 78%** [2,3].
- The average **Task Level Satisfaction** does exceed a value of 5 [6].

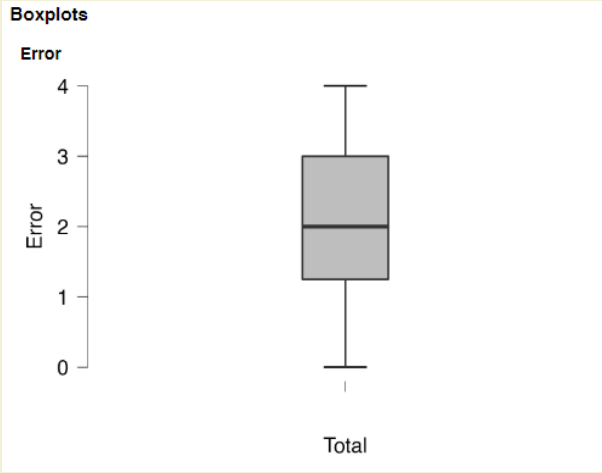


***Figure 2**: Boxplot of the errors made during the user tests*

$$Effectiveness = \frac{67}{70} \times 100\% = 95,71\%$$

***Figure 3**: Calculation of effectiveness*

Qualitative Evaluation

- iteration 5 -

"I would love to have a **auto-complete function**!"

"I **weren't able** to **find** the recipe video...."

"I would like to **adjust the amounts** when entering my ingredients!"

"Shouldn't there be a "heart icon" in the navigation bar?"

"Some buttons should be **highlighted** a bit more"

"It would be great to **get a notification** after adding the recipe to the favorites"

Thank you for your attention!

References

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[3] “10 Things To Know About Completion Rates”, https://measuringu.com/completion-rates/, access on 18.01.2022
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