

# RecipeCove

Your place to find the best recipes!

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“Engineering in Computer Science” Master’s Degree  
Laboratory of Advanced Programming (2022/2023)

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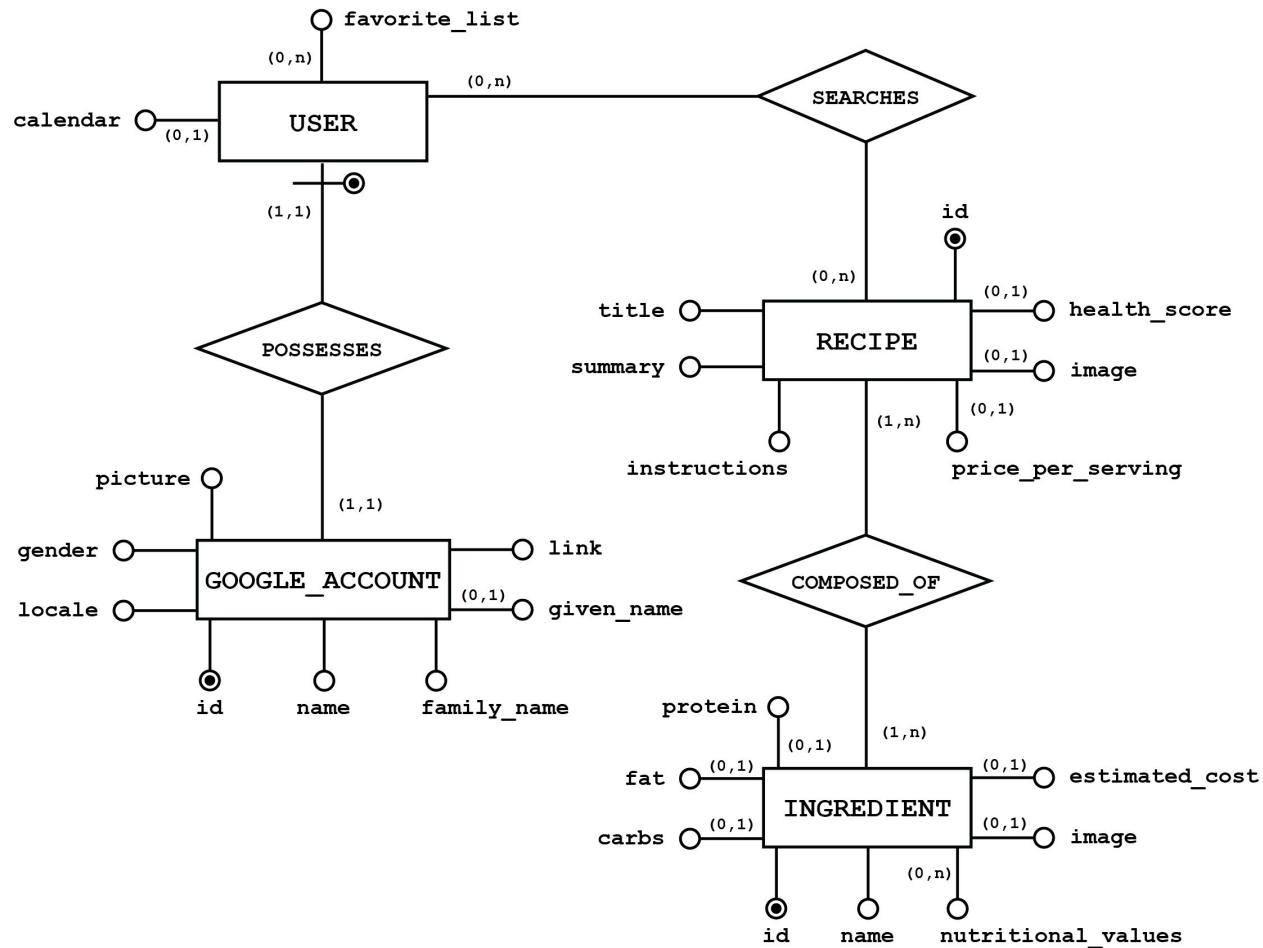
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# Project Idea

# Project Idea

We considered **3 main aspects** for our final system:

- 1) Recipes and Ingredients discovery and bookmark
  - We implemented a system to **find exhaustive information** for a wide range of recipes and maintained a **favorite recipes list**
- 2) Automated sub-systems to suggest recipes to the user and provide notifications
  - We employed a **Chat-BOT** service to suggest recipes following a specific diet and implemented an **automated email service**
- 3) Place to save in-app events relating to recipes
  - We allowed users to create a **Calendar** and reminders directly from the app



# System Infrastructure

# Webapp Container

It is the main container of the system, based on Node.js, which contains the majority of the core functionalities of the application

## Features

- Express js as routing and middleware framework
- User Registration and Login
- Management of the User Profile
- Chat-BOT
- Recipe discovery service
- Ingredient information visualization

# Calendar Container

It is the container employed to serve the Google Calendar microservice

## Features

- Create a Google Calendar
- Delete the Calendar from the system
- Create an Event for a specific recipe and insert it in the Calendar

# CouchDB Container

It is the container used as the persistent layer of our system

## Features

- Document-based database
- Documents represented as Json files
- Management of a replica set to provide replication
- Store data related to users

# Nodemailer Container

This container is devoted to providing  
a mailing service

## Features

- Uses Nodemailer, a Node JS module
- Sends emails to the gmail account of the registered users
- Communicates with the Webapp container through the RabbitMQ container

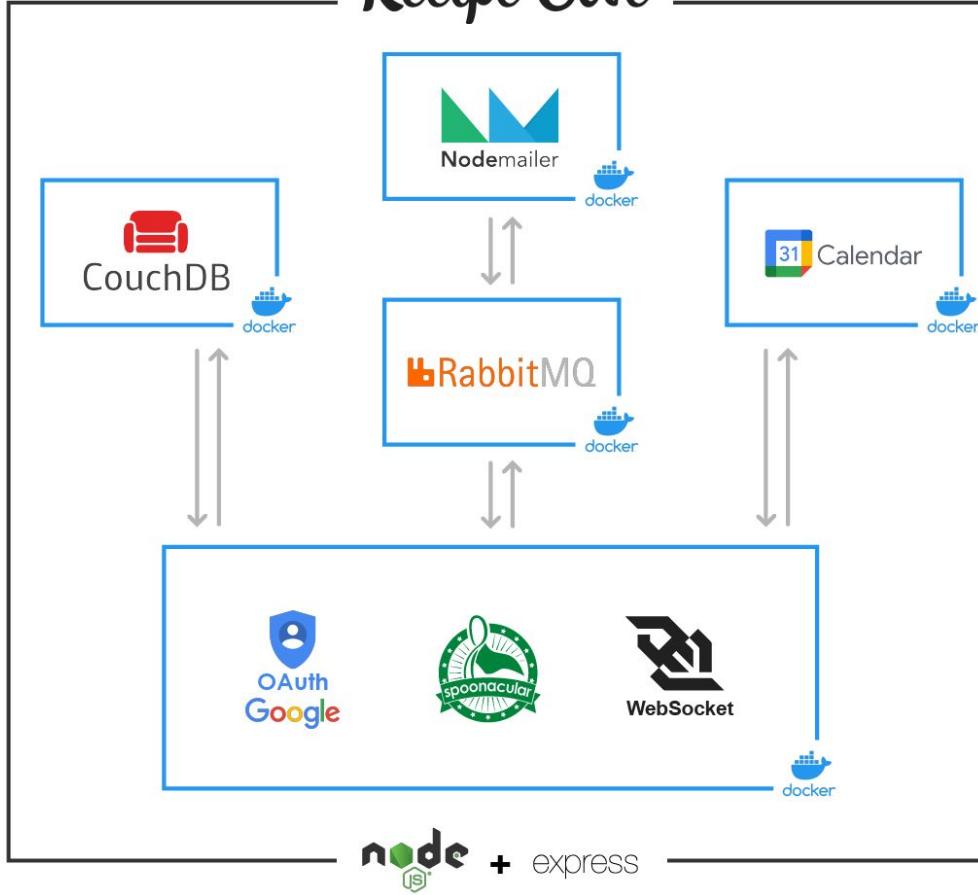
# RabbitMQ Container

This container manages messages exchanged between the Webapp and Nodemailer containers

## Features

- Reliable Messaging Broker
- Offers persistency, delivery of acknowledgements, publishers confirms and high availability
- Middleware that provides multiple messaging protocols

# Recipe Cove



# User Stories & Mockups

- As a visitor, I want to be able to register in the website with an external account, so that I can use an existing Google account
- As a visitor, I want to be able to search a recipe by its name, so that I can search only what interests me
- As a visitor, I want to be able to check the suggested recipes for a specific diet, so that I can be inspired in what to prepare each day
- As a registered user, I want to be able to perform the login, so that I can access other system's functionalities
- As a registered user, I want to be able to perform the logout, so that I can leave my information within the website

## Homepage



/ LOGOUT  
+ PROFILE

## SEARCH RESULTS PAGE

### RESULTS PAGE

RECIPE 01

RECIPE 02

...

- As a visitor, I want to be able to search a recipe by its name, so that I can search only what interests me
- As a visitor, I want to be able to see the information of a recipe, so that I can learn more about it

- As a visitor, I want to be able to see the information of a recipe, so that I can learn more about it
- As a visitor, I want to be able to see the information of an ingredient, so that I can know the details of each ingredient in a recipe
- As a registered user, I want to be able to add an event to my Calendar, so that I can be reminded on a specific day to prepare a particular recipe
- As a registered user, I want to be able to add a recipe to my favorite list, so that I can keep track of all the recipes I like

## RECIPE PAGE

### RECIPE NAME

INGREDIENTS

Ingredient 01

Ingredient 02

...

IMG

ADD TO FAVORITES

CREATE CALENDAR EVENT

### DESCRIPTION

...

## INGREDIENT PAGE

### INGREDIENT NAME

IMG

INGREDIENT INFOS

...

...

- As a visitor, I want to be able to see the information of an ingredient, so that I can know the details of each ingredient in a recipe

- As a registered user, I want to be able to access my profile page, so that I can check my personal information
- As a registered user, I want to be able to create a Calendar, so that I can populate it with events relating recipes
- As a registered user, I want to be able to delete a Calendar, so that I can remove the data gathered within the website
- As a registered user, I want to be able to remove a recipe from my favorite list, so that I can stop being interested in it
- As a registered user, I want to be able to see my favorite list, so that I can check my current interests in recipes

## USER PROFILE PAGE



## RECIPE CALENDAR EVENT

### ADD CALENDAR EVENT

SUMMARY

DESCRIPTION

START DATE

END DATE

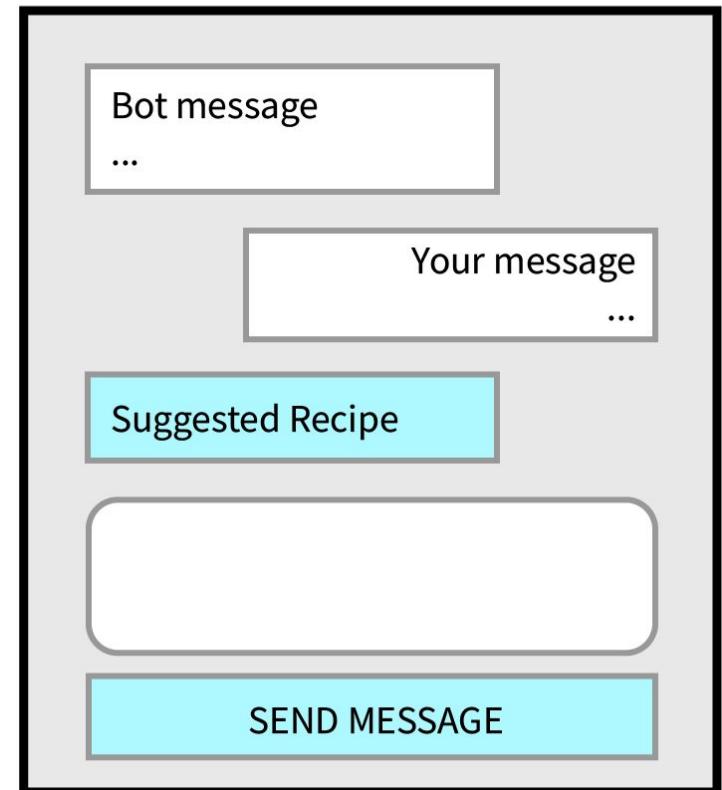
PICK EVENT COLOR

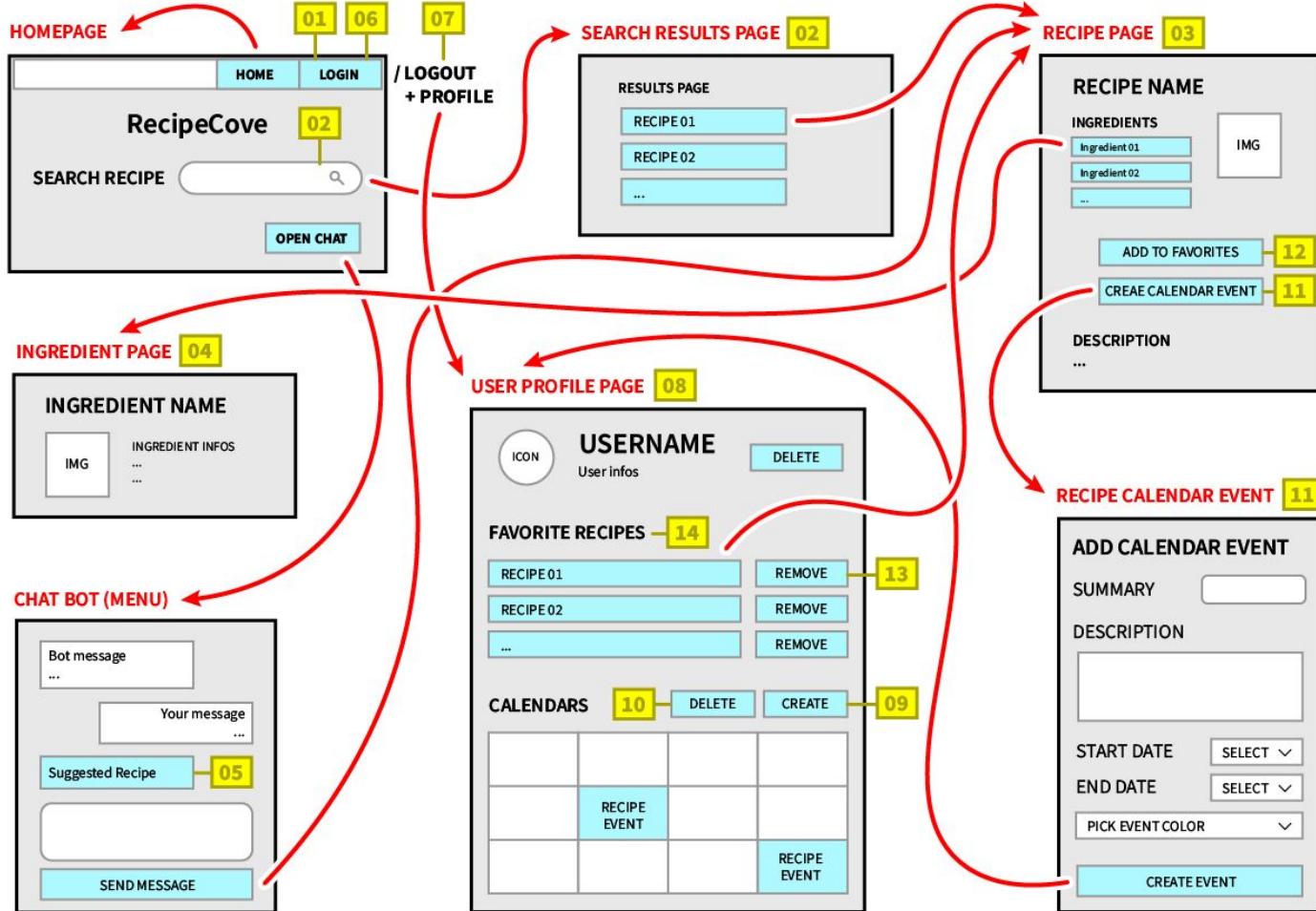
**CREATE EVENT**

- As a registered user, I want to be able to add an event to my Calendar, so that I can be reminded on a specific day to prepare a particular recipe

- As a visitor, I want to be able to check the suggested recipes for a specific diet, so that I can be inspired in what to prepare each day

## CHAT BOT (MENU)





EPIC	USER STORY	PRIORITY	VALUE	RISK	ESTIMATE	RELEASE	ACCEPTANCE	DEPENDENCIES	NOTES
Registration	As a visitor, I want to be able to register in the website with an external account, so that I can use an existing Google account	1 High	1 High	2 Med	LG	1.x	Upon registering, the user will automatically be logged in the website, with the navbar reflecting the change by showing the updated info	Possession of a Google account	The user must accept Google Terms of Service and agree with the use of Google Calendar if he wants to interact with it directly in the website
Search recipes	As a visitor, I want to be able to search a recipe by its name, so that I can search only what interests me	2 Med	2 Med	3 Med	MD	3.x	The user will see a list of recipes matching the searched value	API service provider and related API Key	The user must avoid being too specific in the search terms since most recipes are particularly specific in their names
Show Recipe Information	As a visitor, I want to be able to see the information of a recipe, so that I can learn more about it	2 Med	1 High	3 Med	LG	3.x	The user will have specific information about the selected recipe, in the form of extended description of ingredients, instructions ecc	Depends on the user story in row #3	The user should notice that each ingredient's card is interactive
Show Ingredient Information	As a visitor, I want to be able to see the information of an ingredient, so that I can know the details of each ingredient in a recipe	4 Low	3 Med	4 Low	SM	4.x	The user will see extended information about the selected ingredient	Depends on the user story in row #4	
Suggest Recipes	As a visitor, I want to be able to check the suggested recipes for a specific diet, so that I can be inspired in what to prepare each day	3 Med	2 Med	2 Med	LG	4.x	The user will receive messages from the Chat-BOT in an asynchronous way	API service provider and related API Key	

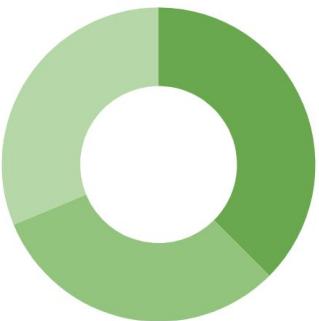
Login	As a registered user, I want to be able to perform the login, so that I can access other system's functionalities	2 Med	1 High	2 Med	MD	1.x	The user will notice the change in the navbar reflecting that he is logged in the website	Depends on the user story in row #2	
Logout	As a registered user, I want to be able to perform the logout, so that I can leave my information within the website	3 Med	3 Med	4 Low	SM	1.x	The user will be redirected to the home page, noticing the possibility to login	Depends on the user story in row #7	
Profile	As a registered user, I want to be able to access my profile page, so that I can check my personal information	1 High	1 High	2 Med	LG	1.x	The user will see all of his information in a detailed page, including his account data as well as his favorites recipes and his calendar	Depends on the user story in row #2 and #7	After the first registration, this page may be relatively empty so it is suggested that the user interacts a little bit with the system first
Calendar Creation	As a registered user, I want to be able to create a Calendar, so that I can populate it with events relating recipes	2 Med	2 Med	1 High	XLG	2.x	Upon clicking the add button, the user will see the newly created calendar in the profile page	Depends on the user story in row #2 and #7	Since a number of API calls to the Google Calendar API needs to be done, as well as an interaction with the database, a small amount of time is needed in order to correctly visualize the calendar in the profile page
Calendar Deletion	As a registered user, I want to be able to delete a Calendar, so that I can remove the data gathered within the website	3 Med	3 Med	4 Low	LG	2.x	Upon clicking the delete button, the user will notice that the calendar will no longer be visible in the profile page	Depends on the user story in row #10	As before, a small amount of time may be needed in order to properly update the profile page
Add Event	As a registered user, I want to be able to add an event to my Calendar, so that I can be reminded on a specific day to prepare a particular recipe	1 High	2 Med	3 Med	MD	3.x	After filling the required form information, the user will be redirected to his profile page and see the newly added event	Depends on the user story in row #10 and #4	If the event is added for days not displayed in the current month, the user needs to scroll the various months of the calendar to check the new event

Add Recipe to Favorites	As a registered user, I want to be able to add a recipe to my favorite list, so that I can keep track of all the recipes I like	2 Med	1 High	3 Med	MD	4.x	When the user is logged in, after clicking on the button to add the current recipe to his favorite list, he can see his list updated correctly in his profile	Depends on the user story in row #7 and #4	In order to provide the best navigation for the user, after he adds a recipe to his favorite list, he will not automatically be redirected to the profile, remaining at the current visited page
Remove Recipe from Favorites	As a registered user, I want to be able to remove a recipe from my favorite list, so that I can stop being interested in it	4 Low	3 Med	4 Low	MD	4.x	The user will see his favorite list automatically updated in his profile, with the selected recipe removed from the list	Depends on the user story in row #9	It follows the same principles of the previous user story
Show Favorites List	As a registered user, I want to be able to see my favorite list, so that I can check my current interests in recipes	2 Med	1 High	2 Med	SM	4.x	Once entering the profile, the user will be able to correctly see the displayed favorite list, at the right-hand side of the page	Depends on the user story in row #9	
Delete Account	As a registered user, I want to be able to delete my personal account, so that I can remove everything related to it from the website	2 Med	2 Med	2 Med	MD	1.x	The user will automatically be redirected to the home page, in which he has the ability to register to the website again	Depends on the user story in row #9	When deleting the account from the website, the user will not be automatically have the consent removed from the services he agreed before (Google account and Google Calendar). In order to do so, he has to enter his personal area in his Google account and remove the consents manually
Mail Notification	As a visitor, I want to be able to receive a mail notification when registering, so that I can know if the registration process has succeeded	2 Med	3 Med	2 Med	LG	5.x	The user will receive a mail to the Google account used to register in the system	Depends on the user story in row #2	The user may not have the notifications activated for gmail, so in order to see the feedback he may directly enter the app and check the latest mails

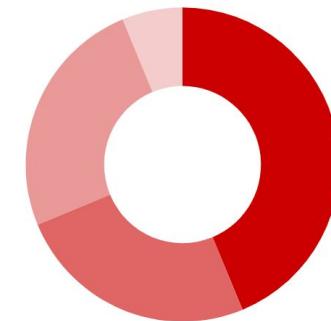
Count of Priority



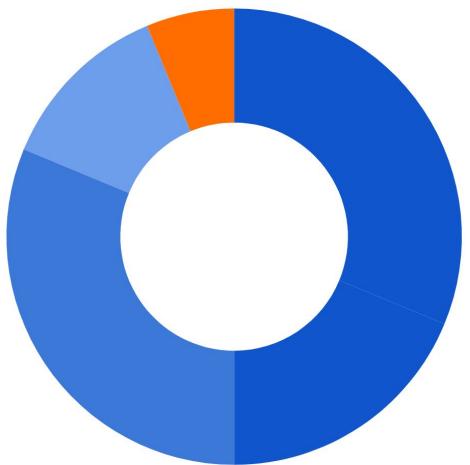
Count of Value



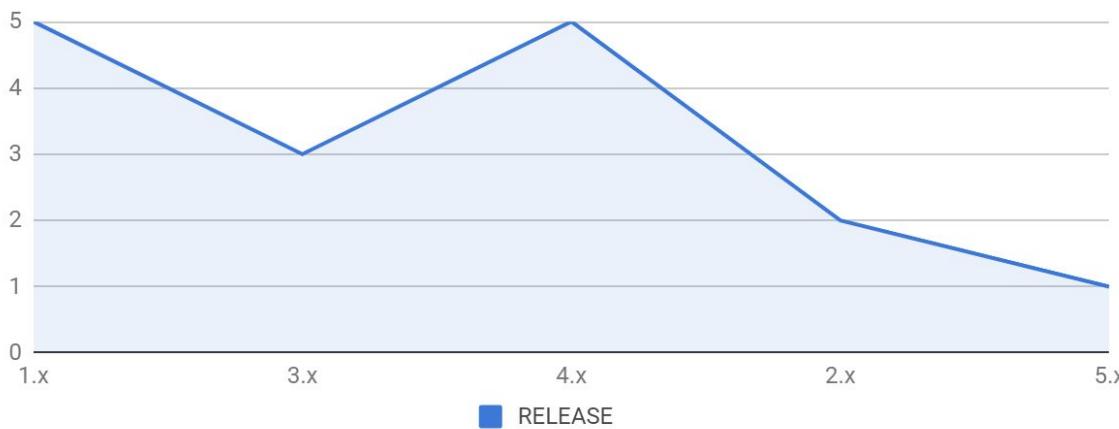
Count of Risk



Stories per Release



Value Per Release



# Function Points Estimation & COCOMO II

# ILF & EIF

Total FP = 22

Starting from the definition of the **Internal Logical Files (ILF)** and **External Interface Files (EIF)**, we identified:

- An ILF for the users, with 1 RET and 10 DET (id, name, given name, family name, link, picture, gender, locale, favorites list, calendar information) ➔ 7FP
- An EIF for the google account information, with 1 RET and 8 DET ➔ 5FP
- An EIF for the recipes information, with 1 RET and 7 DET ➔ 5FP
- An EIF for the ingredient information, with 1 RET and 8 DET ➔ 5FP

Total FP = 22

# External Inputs (EI)

For data coming from outside the application boundaries we identified the following **External Inputs (EI)**:

- An EI for inserting a new user, with 2 FTR and 10 DET → 4FP
- An EI for the login of a user, with 1 FTR and 1 DET → 3FP
- An EI for deleting a user, with 1 FTR and 10 DET → 3FP
- An EI for creating a new calendar for a user, with 1 FTR and 1 DET → 3FP
- An EI for deleting a calendar for a user, with 1 FTR and 1 DET → 3FP
- An EI for adding a recipe to the favorite list, with 1 FTR and 1 DET → 3FP
- An EI for deleting a recipe from the favorite list, with 1 FTR and 1 DET → 3FP

Total FP = 8

# External Outputs (EO)

For the data sent outside the application boundaries, which modifies or alters an ILF, we described these **External Outputs (EO)**:

- An EO for preparing and sending an email to the registered user, with 1 FTR and 2 DET  $\rightarrow$  4FP
- An EO for adding an event to calendar and visualize it, with 1 FTR and 1 DET  $\rightarrow$  4FP

Total FP = 13

# External Inquiries (EQ)

As far as the data sent outside the application boundaries, which however is not modified nor provides derived data, we identified the following **External Inquiries (EQ)**:

- An EQ for the visualization of the profile of a user, with 2 FTR and 7 DET ➔ 4FP
- An EQ for the visualization of the favorite list, with 1 FTR and 1 DET ➔ 3FP
- An EQ to visualize a recipe's information, with 1 FTR and 7 DET ➔ 3FP
- An EQ to visualize an ingredient's information, with 1 FTR and 8 DET ➔ 3FP

# COCOMO II

## Function Points



The estimated amount of total function points is:

**65 FP**

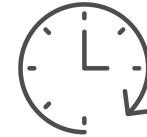
## Lines of Code



Using Javascript as the programming language:

**3445 SLOC**

## Estimated Time



Using the COCOMO II methodology:

**6.1 person-months**

No.	Module	Function Name	Description	Type	DET	RET / FTR	Complexity	FP	Adjust %	FP adjusted
1	User	Users information	Information about the users	ILF	10	1	Low	7		7
2	Google account	Google account information	Information about the Google account	EIF	8	1	Low	5		5
3	Recipe	Recipes information	Information about the recipes	EIF	7	1	Low	5		5
4	Ingredient	Ingredients information	Information about the ingredients	EIF	8	1	Low	5		5
5	User	Insert User	Insert a new user into the database	EI	10	2	Average	4		4
6	User	Login User	Login the user into the system	EI	1	1	Low	3		3
7	User	Delete User	Delete the user from the database	EI	10	1	Low	3		3
8	Calendar	Create Calendar	Create a new Calendar for a user	EI	1	1	Low	3		3
9	Calendar	Delete Calendar	Delete a Calendar for a User	EI	1	1	Low	3		3
10	Recipe	Add Recipe to favorites	Add a Recipe to the favorites list	EI	1	1	Low	3		3
11	Recipe	Remove Recipe from favorites	Remove a Recipe from the favorites list	EI	1	1	Low	3		3
12	User	Send Mail	The system sends a confirmation email to the User the registers	EO	2	1	Low	4		4
13	Calendar	Add Event to Calendar	Add a new Event to a Calendar	EO	1	1	Low	4		4
14	User	Display User Profile	Visualize the Profile of a User	EQ	7	2	Average	4		4
15	User	Display Favorite List	Visualize the favorite list of a User	EQ	1	1	Low	3		3
16	Recipe	Display Recipes information	Visualize a Recipe's information	EQ	7	1	Low	3		3
17	Ingredient	Display Ingredients information	Visualize a Ingredient's information	EQ	8	1	Low	3		3

**Software Size** Sizing Method Function Points

Unadjusted Function Points  Language Java

**Software Scale Drivers**

Precededness	Very High <input type="button" value="▼"/>	Architecture / Risk Resolution	Nominal <input type="button" value="▼"/>	Process Maturity	Low <input type="button" value="▼"/>
Development Flexibility	Low <input type="button" value="▼"/>	Team Cohesion	Extra High <input type="button" value="▼"/>		

**Software Cost Drivers**

Product					
Required Software Reliability	Nominal <input type="button" value="▼"/>	Personnel	Platform		
Data Base Size	Low <input type="button" value="▼"/>	Analyst Capability	Time Constraint	High <input type="button" value="▼"/>	
Product Complexity	Low <input type="button" value="▼"/>	Programmer Capability	Storage Constraint	Nominal <input type="button" value="▼"/>	
Developed for Reusability	High <input type="button" value="▼"/>	Personnel Continuity	Platform Volatility	Low <input type="button" value="▼"/>	
Documentation Match to Lifecycle Needs	Nominal <input type="button" value="▼"/>	Application Experience	High <input type="button" value="▼"/>		
		Platform Experience	Nominal <input type="button" value="▼"/>	Use of Software Tools	Nominal <input type="button" value="▼"/>
		Language and Toolset Experience	Nominal <input type="button" value="▼"/>	Multisite Development	Very High <input type="button" value="▼"/>
				Required Development Schedule	Low <input type="button" value="▼"/>

Maintenance

**Software Labor Rates**  
Cost per Person-Month (Dollars)

**Results**

**Software Development (Elaboration and Construction)**

Effort = 6.1 Person-months  
Schedule = 5.3 Months  
Cost = \$14612

Total Equivalent Size = 3445 SLOC  
Effort Adjustment Factor (EAF) = 0.55

**Acquisition Phase Distribution**

Phase	Effort (Person-months)	Schedule (Months)	Average Staff	Cost (Dollars)
Inception	0.4	0.7	0.6	\$877
Elaboration	1.5	2.0	0.7	\$3507
Construction	4.6	3.3	1.4	\$11105
Transition	0.7	0.7	1.1	\$1753

**Software Effort Distribution for RUP/MBASE (Person-Months)**

Phase/Activity	Inception	Elaboration	Construction	Transition
Management	0.1	0.2	0.5	0.1
Environment/CM	0.0	0.1	0.2	0.0
Requirements	0.1	0.3	0.4	0.0
Design	0.1	0.5	0.7	0.0
Implementation	0.0	0.2	1.6	0.1
Assessment	0.0	0.1	1.1	0.2
Deployment	0.0	0.0	0.1	0.2

```

startCOCOMO, 1
MonteCarlo, MonteCarlo_Off
AutoCalculate, On
size_type, Function Points
function_points, 65
language, Java
prec, Very_High
flex, Low
rely, Nominal
data, Low
cplx, Low
ruse, High
docu, Nominal
resl, Nominal
team, Extra_High
acap, Nominal
pcap, High
pcon, High
apex, High
pexp, Nominal
ltex, Nominal
pmat, Low
time, High
stor, Nominal
pvol, Low
tool, Nominal
site, Very_High
scd, Low
software_maintenance, Off
software_labor_cost_per_PM, 2400
software_EAF, 0.55
size_exponent, 1.0677
schedule_exponent, 0.312
software_effort, 6.1
software_schedule, 5.3

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# **SCRUM**

# Workflow organization

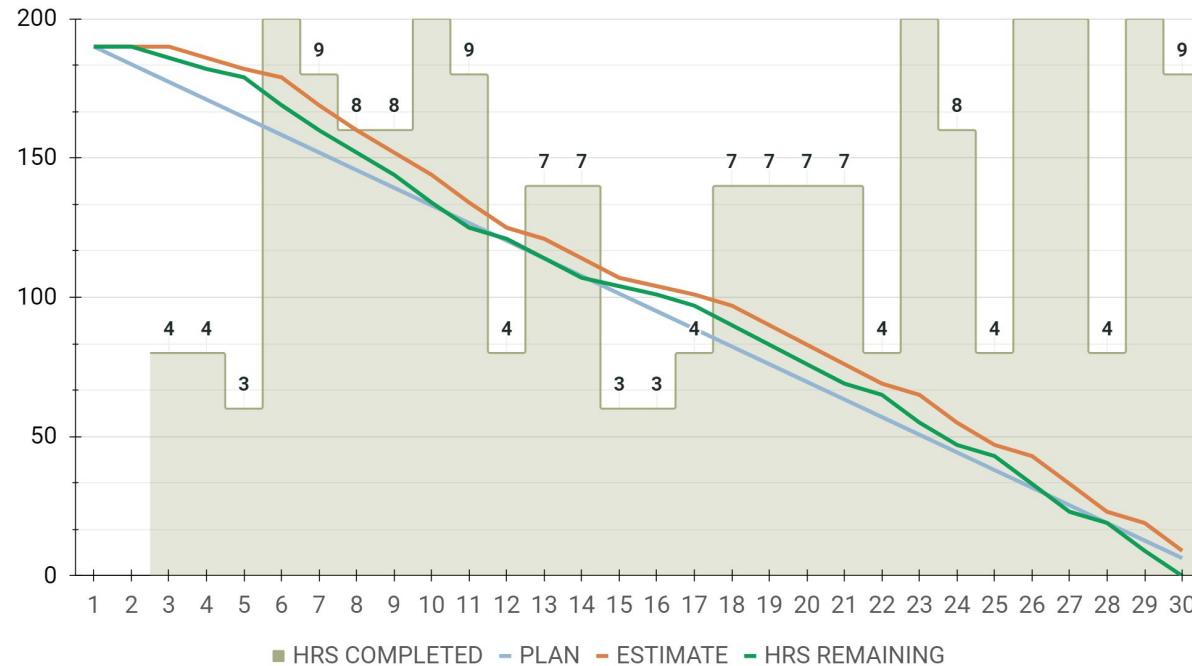
- 1) Valerio Di Stefano, the **Product Owner** ➔ Define the features of the final product, decide the release dates and adjust the features and their priorities at each iteration
- 2) Giuseppe Prisco, the **SCRUM Master** ➔ Manage the project and enforce Scrum values and practices, remove any impediments and ensure that the team is fully functional and productive
- 3) Valerio Di Stefano & Giuseppe Prisco, the **Team** ➔ Each member is specialized in different functions, team members were full-time and self-organized throughout the development phases

Work Breakdown Structure	Task Title	Task Owner	Amount of Work in Hours			Sprint	Start Date	Due Date	Duration	Pct of Task Complete
			Estimate	Completed	Remaining					
1	Project Conception and Documentation		56	56	0					100%
1.1	Project Functionalities	V	10	10	0	1	9/20/2023	9/23/2023	4	100%
1.2	User Stories	V	10	10	0	1	9/23/2023	9/25/2023	3	100%
1.3	LoFi Mockups	V	12	12	0	1	9/25/2023	9/29/2023	5	100%
1.4	Function Points Estimate	G	8	8	0	1	9/25/2023	9/26/2023	2	100%
1.5	COCOMO II	G	7	7	0	1	9/27/2023	9/29/2023	3	100%
1.6	ER schema	V	4	4	0	2	9/29/2023	9/29/2023	1	100%
1.7	Software architecture schema	V	5	5	0	2	9/30/2023	10/1/2023	2	100%
2	System Configuration and Basic Functionalities		37	37	0					100%
2.1	Registration with a Google Account	G	12	12	0	2	10/1/2023	10/4/2023	4	100%
2.2	Login	G	6	6	0	2	10/4/2023	10/5/2023	2	100%
2.3	Logout	G	3	3	0	2	10/5/2023	10/5/2023	1	100%
2.4	Delete Account	G	6	6	0	2	10/6/2023	10/7/2023	2	100%
2.5	Profile	G	10	10	0	2	10/8/2023	10/10/2023	3	100%

3	Development of Core Functionalities		54	54	0						100%
3.1	Create Calendar	G	16	16	0	3	10/11/2023	10/14/2023	4		100%
3.2	Delete Calendar	G	12	12	0	3	10/14/2023	10/16/2023	3		100%
3.3	Search Recipes	V	8	8	0	4	10/17/2023	10/18/2023	2		100%
3.4	Show Recipes Information	V	12	12	0	4	10/18/2023	10/21/2023	4		100%
3.5	Add Event to Calendar	G	6	6	0	4	10/18/2023	10/19/2023	2		100%
4	Development of additional minor Functionalities		20	20	0						100%
4.1	Show Ingredient Information	V	4	4	0	5	10/22/2023	10/23/2023	2		100%
4.2	Suggest Recipes	G	8	8	0	5	10/22/2023	10/24/2023	3		100%
4.3	Add Recipe to Favorites	V	4	4	0	5	10/23/2023	10/23/2023	1		100%
4.4	Remove Recipe from Favorites	V	3	3	0	5	10/24/2023	10/24/2023	1		100%
4.5	Show Favorite Recipes	V	1	1	0	5	10/24/2023	10/24/2023	1		100%
5	Finalization of the Project		23	23	0						100%
5.1	Mail Notification	V	12	12	0	6	10/25/2023	10/27/2023	3		100%
5.2	GUI for Home, profile, recipes, ingredients page	V	7	7	0	6	10/27/2023	10/28/2023	2		100%
5.3	GUI for add event to calendar and error page	G	4	4	0	6	10/27/2023	10/28/2023	2		100%



## BURNDOWN CHART



DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
PLAN	190	184	177	171	165	158	152	146	139	133	127	120	114	108	101	95	89	82	76	70	63	57	51	44	38	32	25	19	13	6	
ESTIMATE	190	190	190	186	182	179	169	160	152	144	134	125	121	114	107	104	101	97	90	83	76	69	65	55	47	43	33	23	19	9	
HRS COMPLETED				4	4	3	10	9	8	8	10	9	4	7	7	3	3	4	7	7	7	7	4	10	8	4	10	10	4	10	9
HRS REMAINING	190	190	186	182	179	169	160	152	144	134	125	121	114	107	104	101	97	90	83	76	69	65	55	47	43	33	23	19	9	0	

PRIORITY	SPRINT	FUNCTIONALITY	TASK TITLE	TASK DESCRIPTION	TASK OWNER	WORK ESTIMATE IN HOURS	STATUS
High	1	Project Conception and Documentation	Project Functionalities	Definition of the major functionalities of our project	V	10	Completed
High	1	Project Conception and Documentation	User Stories	Definition of the user stories of the system	V	10	Completed
Medium	1	Project Conception and Documentation	LoFi Mockups	Creation of the Low-Fidelity mockups of the the pages of our system	V	12	Completed
Medium	1	Project Conception and Documentation	Function Points Estimate	Estimation of the function points	G	8	Completed
Medium	1	Project Conception and Documentation	COCOMO II	Utilization of the COCOMO II method	G	7	Completed
Low	2	Project Conception and Documentation	ER schema	Creation of the ER-schema of our system	V	4	Completed
Low	2	Project Conception and Documentation	Software architecture schema	Creation of the schema of our system's architecture	V	5	Completed
High	2	System Configuration and Basic Functionalities	Registration with a Google Account	Creation of the functionality to register with a Google account in our system	G	12	Completed
Medium	2	System Configuration and Basic Functionalities	Login	Creation of the functionality to login in our system	G	6	Completed
Medium	2	System Configuration and Basic Functionalities	Logout	Creation of the functionality to logout from our system	G	3	Completed
Medium	2	System Configuration and Basic Functionalities	Delete Account	Managing the deletion of an account from the system	G	6	Completed
High	2	System Configuration and Basic Functionalities	Profile	Managing the information to be shown in the user profile	G	10	Completed

Medium	3	Development of Core Functionalities	Create Calendar	Creation of the functionality to create a Calendar directly in our system	G	16	Completed
Medium	3	Development of Core Functionalities	Delete Calendar	Creation of the functionality to delete a Calendar directly in our system	G	12	Completed
Medium	4	Development of Core Functionalities	Search Recipes	Creation of the functionality to search for recipes by name with an external API	V	8	Completed
Medium	4	Development of Core Functionalities	Show Recipes Information	Creation of the functionality to get the information for recipes with an external API	V	12	Completed
High	4	Development of Core Functionalities	Add Event to Calendar	Creation of the functionality to add an event to a Calendar directly in our system	G	6	Completed
Low	5	Development of additional minor Functionalities	Show Ingredient Information	Creation of the functionality to get the information for ingredients with an external API	V	4	Completed
Medium	5	Development of additional minor Functionalities	Suggest Recipes	Creation of the functionality to get the suggested recipes for a specific diet with a Chat-BOT	G	8	Completed
Medium	5	Development of additional minor Functionalities	Add Recipe to Favorites	Creation of the functionality to add recipes to a favorite list	V	4	Completed
Low	5	Development of additional minor Functionalities	Remove Recipe from Favorites	Creation of the functionality to delete recipes from the favorite list	V	3	Completed
Medium	5	Development of additional minor Functionalities	Show Favorite Recipes	Creation of the functionality to show all the recipes of the favorite list in the user profile	V	1	Completed
Medium	6	Finalization of the Project	Mail Notification	Creation of the functionality to send an email to the Google account used during registration	V	12	Completed
Low	6	Finalization of the Project	GUI for Home, profile, recipes, ingredients page	Improved the GUI for the Home, profile, recipes and ingredients pages	V	7	Completed
Low	6	Finalization of the Project	GUI for add event to calendar and error page	Improved the GUI for the add event to calendar and error pages	G	4	Completed

# Sprint Reports

# Sprint Organization

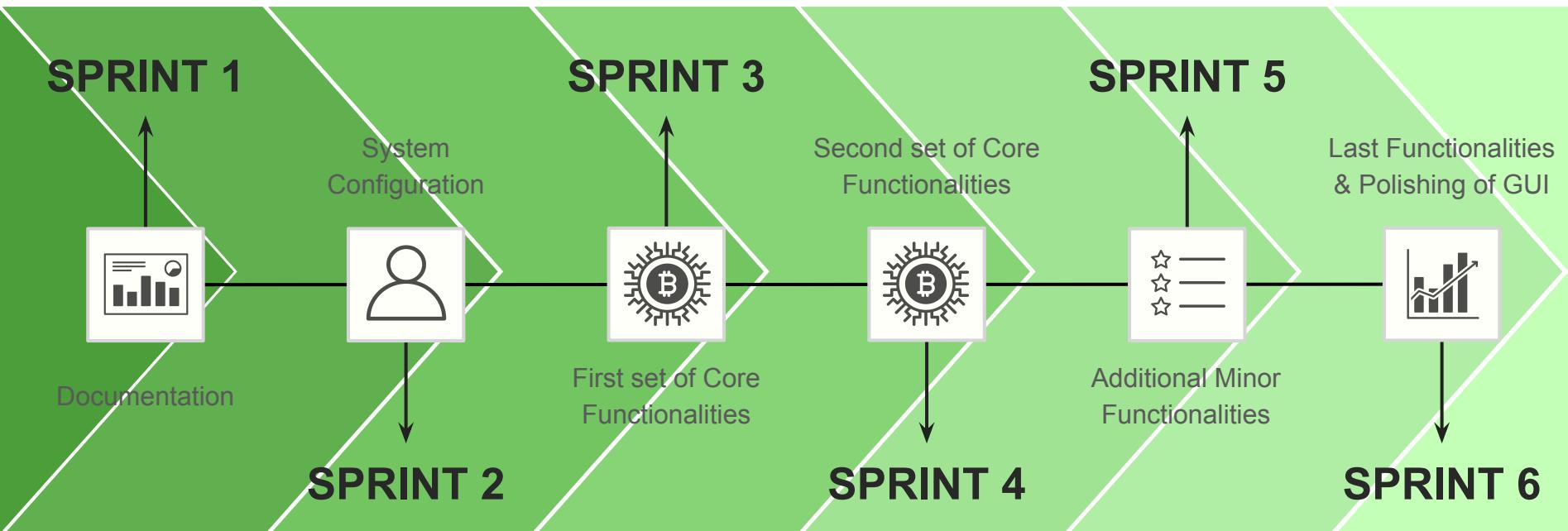
The work for the project has been organized in **6** different sprints ➔ The team selected items from the product backlog and collaboratively identified the tasks:

- 1) **At the end of each working day** ➔ 10-15 minutes discord call to reorganize what has been done, what has been accomplished and what was not working
  
- 2) **At the end of each sprint** ➔ presentation of what has been done during the sprint, showing a brief demo of the newly accomplished functionalities

# Sprint Planning & Goals - General Summary

<b>Sprint #1</b> Basic Functionalities & Documentation	<b>Sprint #2</b> System Configuration & Basic Functionalities	<b>Sprint #3</b> First set of Core Functionalities
<b>Sprint #4</b> Second set of Core Functionalities	<b>Sprint #5</b> Additional Minor Functionalities	<b>Sprint #6</b> Last Functionalities & Polishing of the GUI

# Sprint Planning & Goals - General Summary



# Sprint 1

Name	Initial Sprint			0 days left
Goal	Define basic functionalities and documentation	Duration	8 working days	
Process improvement	Improve the estimation of the work	Things	5 things	
Start Date	20/09/2023	Story Points	47 points	
End Date	29/09/2023			

## Sprint Metrics

Things Planned	5	Key Achievements	The task plan for this sprint was correctly completed. The general conceptions and the documentations of the Project have been defined.
Points Planned	47		
Things done:	5	Performance Summary	The tasks we identified requested the same amount of hours we initially planned.
Things left:	0		
Story Points done	47		
Story Points left:	0		

## Sprint Backlog

Things (5)	Type	Story Points (47)	Description
Project Functionalities	task	10	Definition of the major functionalities of our project
User Stories	task	10	Definition of the user stories of the system
LoFi Mockups	task	12	Creation of the Low-Fidelity mockups of the the pages of our system
Function Points Estimate	task	8	Estimation of the function points
COCOMO II	task	7	Utilization of the COCOMO II method

Sprint 2				
Name	Second Sprint			0
Goal	System Configuration and Basic Functionalities		Duration	
Process improvement	Improve the commit quality		Things	8 working days
Start Date	29/09/2023		Story Points	7 things
End Date	10/10/2023			46 points
				days left
Sprint Metrics				
Things Planned	7	<b>Key Achievements</b>	In this sprint we successfully delivered a first working version of the system, with basic functionalities as the registration in the website.	
Points Planned	46			
Things done:	7			
Things left:	0	<b>Performance Summary</b>	Similarly to the first sprint, we managed to complete everything we had planned in the identified estimated days. The amount of work was similar to that of the first sprint	
Story Points done	46			
Story Points left:	0			
Sprint Backlog				
Things (7)	Type	Story Points (46)	Description	
ER schema	task	4	Creation of the ER-schema of our system	
Software architecture schema	task	5	Creation of the schema of our system's architecture	
Registration with a Google Account	story	12	Creation of the functionality to register with a Google account in our system	
Login	story	6	Creation of the functionality to login in our system	
Logout	story	3	Creation of the functionality to logout from our system	
Delete Account	story	6	Managing the deletion of an account from the system	
Profile	story	10	Managing the information to be shown in the user profile	

## Sprint 3

Name	Third Sprint			0
Goal	First set of Core functionalities	Duration	4 working days	
Process improvement	Improve the coding quality	Things	2 things	
Start Date	11/10/2023	Story Points	28 points	
End Date	16/10/2023			days left

## Sprint Metrics

Things Planned	2	Key Achievements	The first set of core functionalities has been implemented, while also assuring a general robustness to the working system.
Points Planned	28		
Things done:	2	Performance Summary	For this sprint, only one of the two team members could work on the project, as to why only two major "things" have been developed.
Things left:	0		
Story Points done	28		
Story Points left:	0		

## Sprint Backlog

Things (2)	Type	Story Points (28)	Description
Create Calendar	story	16	Creation of the functionality to create a Calendar directly in our system
Delete Calendar	story	12	Creation of the functionality to delete a Calendar directly in our system

## Sprint 4

Name	Fourth Sprint			0
Goal	Second set of Core functionalities	Duration	4 working days	
Process improvement	Improve sprint reporting	Things	3 things	
Start Date	17/10/2023	Story Points	26 points	
End Date	21/10/2023			days left

## Sprint Metrics

Things Planned	3	Key Achievements	The second set of core functionalities has been implemented into the system, and additional improvements were brought for existing functionalities.
Points Planned	26		
Things done:	3	Performance Summary	Nothing particularly interesting to report.
Things left:	0		
Story Points done	26		
Story Points left:	0		

## Sprint Backlog

Things (3)	Type	Story Points (26)	Description
Search Recipes	story	8	Creation of the functionality to search for recipes by name with an external API
Show Recipes Information	story	12	Creation of the functionality to get the information for recipes with an external API
Add Event to Calendar	story	6	Creation of the functionality to add an event to a Calendar directly in our system

Sprint 5				
Name	Fifth Sprint	0		
Goal	Additional minor functionalities		Duration	2 working days
Process improvement	Improve sprint reporting and team synergy		Things	5 things
Start Date	22/10/2023		Story Points	20 points
End Date	24/10/2023			days left
Sprint Metrics				
Things Planned	5	Key Achievements	Other minor functionalities have been successfully implemented in the system.	
Points Planned	20			
Things done:	5	Performance Summary	For this sprint, the team had to pursue an additional effort to implement all the planned functionalities.	
Things left:	0			
Story Points done	20			
Story Points left:	0			
Sprint Backlog				
Things (5)	Type	Story Points (20)	Description	
Show Ingredient Information	story	4	Creation of the functionality to get the information for ingredients with an external API	
Suggest Recipes	story	8	Creation of the functionality to get the suggested recipes for a specific diet with a Chat-BOT	
Add Recipe to Favorite	story	4	Creation of the functionality to add recipes to a favorite list	
Remove Recipe from Favorites	story	3	Creation of the functionality to delete recipes from the favorite list	
Show Favorite Recipes	story	1	Creation of the functionality to show all the recipes of the favorite list in the user profile	

## Sprint 6

Name	Sixth Sprint			0
Goal	Last functionalities and polishing of the GUI	Duration	3 working days	
Process improvement	Improve the overall code integration	Things	3 things	
Start Date	25/10/2023	Story Points	23 points	
End Date	28/10/2023			days left

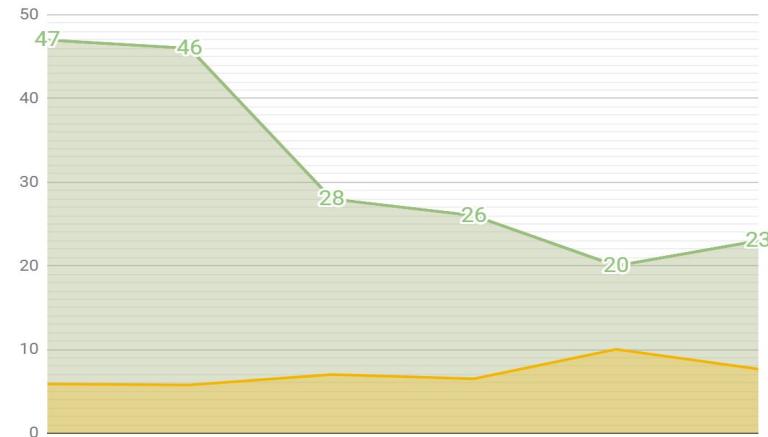
### Sprint Metrics

Things Planned	3	Key Achievements	In this sprint we focused on the last aspects of the project, including the polishment of the GUI of the pages. We successfully concluded all the planned activities for the project.
Points Planned	23		
Things done:	3	Performance Summary	In this last sprint the team managed to successfully complete all the "things" in the estimated time.
Things left:	0		
Story Points done	23		
Story Points left:	0		

### Sprint Backlog

Things (3)	Type	Story Points (23)	Description
Mail Notification	story	12	Creation of the functionality to send an email to the Google account used during registration
GUI for Home, profile, recipes, ingredients page	improvement	7	Improved the GUI for the Home, profile, recipes and ingredients pages
GUI for add event to calendar and error page	improvement	4	Improved the GUI for the add event to calendar and error pages

Velocity	Sprint	Sprint 1	Sprint 2	Sprint 3	Sprint 4	Sprint 5	Sprint 6
	Working Days	8	8	4	4	2	3
4.166666667	Planned Things	5	7	2	3	5	3
31.66666667	Planned Points	47	46	28	26	20	23
4.166666667	Finished Things	5	7	2	3	5	3
<b>31.66666667</b>	<b>Finished Points</b>	<b>47</b>	<b>46</b>	<b>28</b>	<b>26</b>	<b>20</b>	<b>23</b>
7.13	Points per dev day	5.88	5.75	7.00	6.50	10.00	7.67
100%	<b>Commit Score</b>	100%	100%	100%	100%	100%	100%



# System Demo

LOGIN

# Recipe Cove

## Your place to find the best recipes!

Recipe Cove lets you **find the best recipes** for your needs!  
You can **search for recipes** and their details, see **single ingredients information**, and also add recipes to **your personal list**:  
If you **login** with your Google account, you can also **add events to your Google Calendar**!  
Ultimately, you can use our **Chat-Bot** to ask for recipe suggestions based on a **specific diet**.

## Search for any of our recipes!



## Access more features!

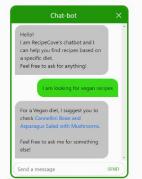
Login with your Google account!



## Try our Chat-Bot!

You can use our Chat-Bot to ask for recipe suggestions based on a specific diet!

Try it out by clicking on the "Chat-Bot" button on the bottom right of this page.



LOGIN

## Search results for "pasta"



Pasta With Tuna



Pasta Margherita



Pasta On The Border



Pasta Vegetable Soup



Pasta With Italian Sausage



Pasta With Gorgonzola Sauce



Pasta With Salmon Cream Sauce



Pasta With Chickpeas and Kale



Pasta With Chicken and Broccoli



Pasta With Chicken and Mushrooms



Pasta with Spicy Sausage &amp; Rapini



Pasta e Fagioli (Pasta and Beans)



Pasta Roses With Zucchini and Ham



Pasta with Peas and Italian Sausage



Pasta With Cream Sauce and Mushrooms



Pasta With Feta Cheese And Asparagus



Pasta A La Lydia (Halloween Inspired)



Pasta casserole with zucchini and chicken



Pasta Shells With Ricotta Cheese Stuffing



Pasta With Roasted Vegetables &amp; Greek Olives

## Pasta e Fagioli (Pasta and Beans)



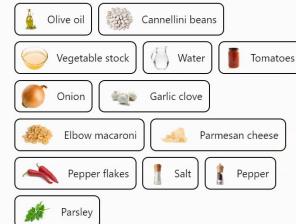
### Estimated Price

\$51.05 per serving

### Health Score

22%

### Ingredients



Add to favorites

Add to Calendar

### Recipe Description:

Pasta e Fagioli (Pasta and Beans) might be a good recipe to expand your hor d'oeuvre recipe box. This recipe makes 6 servings with **214 calories**, **10g of protein**, and **6g of fat** each. For **51 cents per serving**, this recipe **covers 10%** of your daily requirements of vitamins and minerals. A few people really liked this Mediterranean dish. 13 people were impressed by this recipe. This recipe from Foodista requires olive oil, garlic clove, onion, and water. From preparation to the plate, this recipe takes around **45 minutes**. With a spoonacular **score of 52%**, this dish is solid. Users who liked this recipe also liked [Pasta e Fagioli con Saliccia \(Pasta and Beans with Sausage\)](#), [Pasta e Fagioli con Salsicce \(Pasta and Beans with Sausage\)](#), and [Pasta e Fagioli con Salsiccia \(Pasta and Beans with Sausage\)](#).

### Recipe Instructions:

In a large stock pan over medium-high heat, add the olive oil and the onion. Allow the onion to cook until it is tender (about 3 minutes). Add the tomato (or marinara sauce) and garlic and incorporate it into the mixture. Cook for just 1-2 minutes (be careful not to burn the garlic). Add the vegetable stock, water, salt, pepper and red pepper flakes. Bring this to a boil and then add your pasta. Lower the heat and allow the pasta to cook until its about 3/4 of the way finished (still slightly firm). Add your beans and allow the mixture to continue cooking until the pasta is fully cooked (about 10-15 minutes). Add the parsley toward the end of your cooking time. Taste and adjust the seasoning as needed. Serve in individual bowls with extra parsley as garnish and sprinkle with the Parmesan cheese.

## Avocados



### Estimated Cost

74.63 US Cents

### Caloric Breakdown

Protein	Fat	Carbs
4.59	75.85	19.56

### Nutritional Values

Folic Acid: 0 µg | Sodium: 7 mg | Vitamin A: 146 IU | Fluoride: 7 mg | Iron: 0.55 mg | Caffeine: 0 mg | Vitamin B2: 0.13 mg | Phosphorus: 52 mg | Vitamin C: 10 mg | Manganese: 0.14 mg | Vitamin K: 21 µg | Zinc: 0.64 mg | Vitamin B6: 0.26 mg | Vitamin E: 2.07 mg | Lycopene: 0 µg | Potassium: 485 mg | Fiber: 6.7 g | Calories: 160 kcal | Sugar: 0.66 g | Mono Unsaturated Fat: 9.8 g | Choline: 14.2 mg | Folate: 81 µg | Vitamin D: 0 µg | Net Carbohydrates: 1.83 g | Magnesium: 29 mg | Fat: 14.7 g | Carbohydrates: 8.53 g | Protein: 2 g | Poly Unsaturated Fat: 1.82 g | Cholesterol: 0 mg | Copper: 0.19 mg | Alcohol: 0 g | Vitamin B12: 0 µg | Calcium: 12 mg | Selenium: 0.4 µg | Vitamin B1: 0.07 mg | Vitamin B3: 1.74 mg | Saturated Fat: 2.13 g | Vitamin B5: 1.39 mg |

# Recipe Cove

Profile LOGOUT



Valerio Di Stefano  
Name: Valerio  
Surname: Di Stefano  
Nationality: it

Your Calendar

Recipe Calendar  
Egg [ ] ottobre 2023 [ ] Stampa Settimana Mese Aggiungi a Google Calendario

dom	lun	mar	mer	gio	ven	sab
1 ott.	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1 nov.	2	3	4

Eventi mostrati nel fuso orario: Città dell'Europa centrale - Roma

Prepara la tua ricetta

Google Calendario

Your favorite recipes

- Chicken Kale Bake
- Pasta Shells With Ricotta Cheese Stuffing
- Salmon Confit with Lemongrass Sauce
- Fast Tiramisu

# Recipe Cove

Profile LOGOUT

### Add event

Fill the following fields to add an event to your Calendar!

Summary  
Prepare the recipe: Avocado Egg Salad

Description  
The event description

Start Date

End Date

Event Color  
Pale Blue

Create Recipe Event

# Recipe Cove

LOGIN

Search for any of our recipes!

 SEARCH

Access more features!

Login with your Google account!

G Login

Chat-bot

I am RecipeCove's chatbot, I can help you find recipes based on a specific diet! Feel free to ask for anything!

I follow a strict vegan diet.

For a Vegan diet, I suggest you to check Cauliflower, Brown Rice, and Vegetable Fried Rice.

Feel free to ask me for anything else!

Send a message

SEND

# Recipe Cove

Project developed for the course of  
**Laboratory of Advanced Programming**  
at **Sapienza University of Rome**

*Valerio Di Stefano  
Giuseppe Prisco*

