Software Requirements Specification Document

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An Architecture of Digital Gastronomy

Contents

1 Introduction

1.1 1.1 Purpose:

Project Goal:
The project purpose is developing a research tool for Digital Gastronomy (DG), by creating the outlines of a system. the product will be cover APIs with other databases and architectures to be used for analyzing the properties of digital gastronomy, and how to improve the quality of this process.
For:
The project is to develop tools for cooks and chefs to interact with mechanism of digitally manufacturing high end dishes, and is the first step in longer term research in this field. At this stage this app will assist the Research Coordinator, Shimon Bezalel, in his research in DG..

1.2 1.2 Scope

Name: An Architecture of Digital Gastronomy
Focus:

- Research about the interactions and protocols for the needs of DG

- Collections and analysis for datasets such as aroma and taste intensities, definition of meta-recipe, etc. in digital context, and create architectures to be used for cooks while they cook.

- Tools for the cook in real-time environments of dish manufacturing.
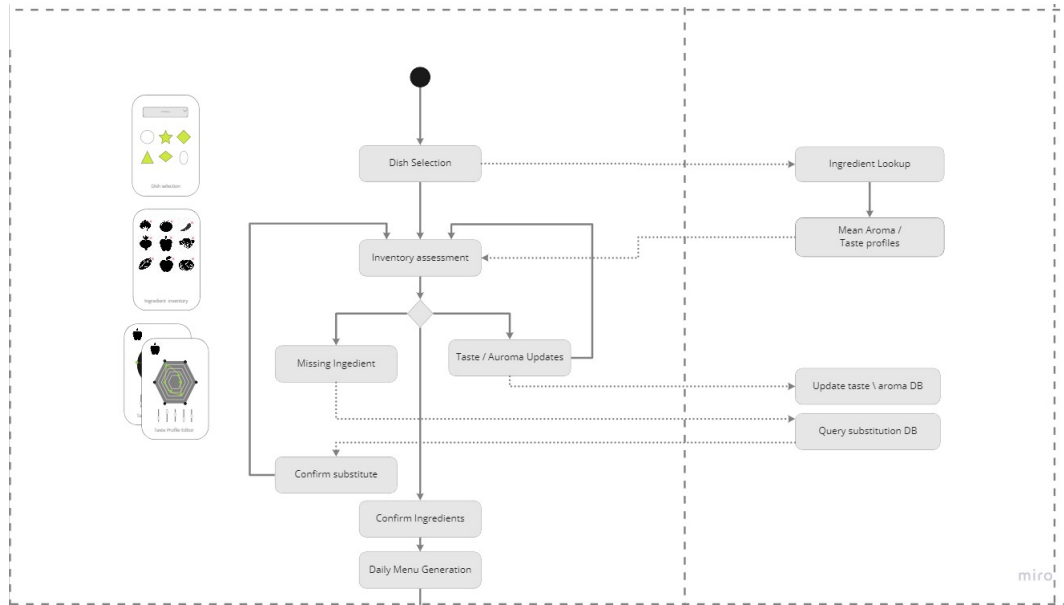
2 The Overall Description

2.1 Product Perspective

A digital gastronomy as we see it intended to be for help to cook and give him a tool and option that he never had before. Therfore while we try to describe the digital gastronomy process, in any phase we will look at the cook and the digital agent at the same time. we will try to describe how the digital agent meet the cook during the process, how it help him in some steps, and how it can improve him or give him a new options.

In our procejct we wil focus on cooking dishes in a restaurant , and as we diagnosed is could be count as 3 phases:

1. Shift setup

2. mise en place

3. Dish manufacturing

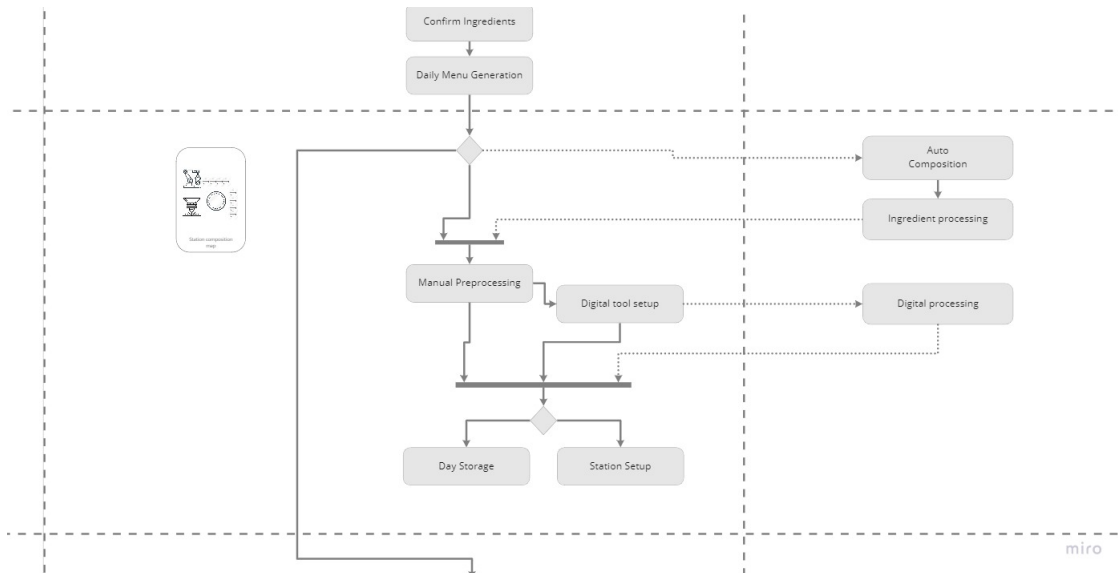and we will describe them with UML in activity diagram :

Shitf setup

Dish-selection

Ingredient inventory

Taste Profile Editor

Dish Selection

Ingredient Lookup

Mean Aroma / Taste profiles

Inventory assessment

Missing Ingedient

Taste / Auroma Updates

Update taste \ aroma DB

Query substitution DB

Confirm substitute

Confirm Ingredients

Daily Menu Generation

miro

The UML describe:

1. Dish selection

2. figure out what ingredient the selection required and what aroma and taste profile there had

3. phase of update/subttited as the cooks wish

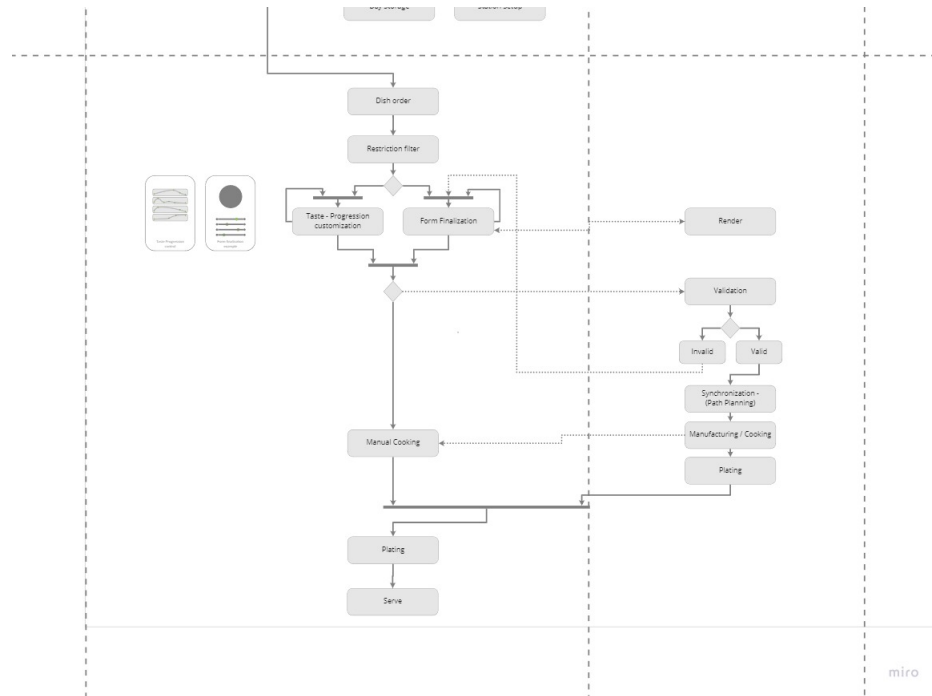4. generate a Daily menu

mise en place

Confirm Ingredients

Daily Menu Generation

Station composition map

Auto Composition

Ingredient processing

Manual Preprocessing

Digital tool setup

Digital processing

Day Storage

Station Setup

miro

Note:

1. This phase include all preproccesisng the dish require

2. This phase include integration with cookware in the Kitchen

3. In the end of that stage we will be ready for dish ordering

Dish manufacturing

Note:

1. This phase include a manual and digital process for cookingq/printing a dish

2. It's demand the options of taste fine tuninig and form customization

3. excuting all data , and printing ahe dish

2.1.1   Interfaces

- rhino

- grasshopper

- mongoDb

3 Specific Requirements

3.1 Functions

- Choose languages and frameworks for App Server, Client, DB and 3rd party software APIs

- Design and implement architecture for Server's support of multiple external APIs

- Implement API sockets for geometric engine (grasshopper & rhino), Robotic Arm SW, Aroma and Taste DBs, Pairing DB, Substitution DB

- Implement rudimentary UX views and navigations

3.2 Logical Database Requirements

3.3 System features

id	Feature Name	Priority	Dependancies
1	Aroma intensity DB API	3	Aroma matrix
2	Intensity Rendering	3	
3	Taste intensity DB API	3	Taste matrix
4	Ingredient Inventory	1	
5	Ingredient Subsitution DB	1	Aroma matrix, Taste matrix
6	Meta-Recipe DB API	4	1,3,4,5
7	Meta-Recipe Rendering	2	9
8	Menu Rendering	1	robotic arm, laser
9	Cookware API	4	9
10	Mise en place composition	2	
11	Cookware setup instructions	3	6
12	Dish Order Process consumer	1	8, 13
13	Restriction Filter	2	
14	Taste fine tuning UI	3	distributions, draggable, graph
15	Geometrical compute engine API	4	rhino, grasshopper
16	Taste fine tuning UI	3	
17	Geometrical Validation	2	16,15
18	Cooking / Printing	4	robotic arm 10,11,13,14,15,16
19	Plating	1	18

4 Document Approvals

- Name :Shimon Bezalel