

Cake Master

3D Baking

SRS

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1. Introduction

This section will briefly describe the main goal of Cake master application and the problems it aiming to solve.

1.1. Overview

These days, people who want to bake pastries are reaching for the web to get recipes, and therefore limited to the same premade recipes.

Cake Master will provide a way to develop new and genuine pastries over 3D cake dashboard painter tool, while also taking care of dietary preferences, allergies, favorite food, and other user predefined and calculated preferences.

At the end, Cake master will provide full guided recipe with grocery list and list of available pastry kitchens that can made the pasty for them.

1.2. Problem Description and Motivation

Nowadays:

- Searching for new pastry recipes that meet one's creative ideas, needs and limitations can be hard task, and usually the end result is unknown.
- While reaching for new recipe, sometimes there are missing ingredients or proper means to execute the recipe directions.

1.3. Goals

Our goal is to:

- Provide users with the ability to plan their pastries as 3D module, with detailed information about their composition, as well as limitations for a specific diet plan, allergies, and other preference.
- Generate full detailed recipes, grocery list, potential pastry kitchen list that can make the pastry and full guided step by step directions for making at home.

1.4. Scope

Culinary, Pastry recipes.

1.5. Glossary

Recipe	A recipe is a set of instructions that describes how to prepare a dessert.
Ingredients	Ingredients are substances which are used as a component of a recipe.
Home baker	The main application user who can create/edit/watch/share 3d cake models and recipes.
Service provider	The secondary user of the application, can be confectionery or commercial kitchen who can make dessert according to recipes generated by the application and send the end result to the customer (Home baker).
3D cake painter	Part of the application where users can build dessert models.
Virtual baking assistant	Part of the application where user can watch the final dessert recipe and follow the recipe instructions step by step.
App engine	Describes internal operations performed by the system.
3D board	Part of the 3D cake painter where user can watch the dessert being built in real time.
Tool bar	Part of the 3D cake painter where user can choose dessert elements and drag and drop them to the 3d board.
Actor	Application user – home baker or service provider

2. General Description

The following section will discuss thoroughly about the general system properties

2.1. User Characteristics

Here we'll describe the different user and client characteristics.

2.1.1. Stakeholders:

Our client is **Pillsbury**



[1]

“Manufacturer and distributor of consumer food products. The company provides a range of branded food products, including baked goods, frozen pizzas, vegetables, soups and desserts”. [2]

A large-scale company such as this can distribute our application, and profit from selling ingredients and directing users to the company pastry kitchens around the world.

2.1.2. End-Users Description and Scenarios

The main users of our app are the home bakers and people who want to make customize pastries. There're also the service provider users like confectionery owners who can make and deliver the pastries.

Following are some examples of potential users and different usage scenarios.

a. Roni Levi

27 y/o, living in Nissim Alony St. Tel Aviv.

Culinary social media influencer, Roni is an expert baker who keeps experimenting with different ingredients and shares the links to her recipes on Instagram. She runs a successful food blog "RoniBoni".

Perspective – creates new recipes and post beautiful food pictures on her Instagram page.



[3]

Scenario – As Valentine's Day is coming, Roni intended to bake an impressive cake to mark that day. Roni opened the Cake master app and start crafting her cake. Choosing the free style crafting option, Roni used the 3d cake dashboard interface and started to build the layers of the cake. She chose heart shape cake base with flavors of chocolate and red wine, then added pastry cream filling and top the cake with roses meringue and Finally garnished with golden chocolate chips.

Ronny was thrilled with the end result shown on 3d board. She chose the bake it yourself option, Cake master app then gathered the information needed to construct the recipe, after confirming she got all the ingredients from the ingredient list, Roni tapped to the next step and started making the cake using the virtual baking assistant.

When the cake was ready, Roni took pictures and posted the end result pictures alongside the 3d model she created.

b. Eyal Peleg

35 y/o, living in Hillel Yafe St. Hedera.
Software engineer at Google, head of
cyber development team.

Eyal is married to Hagit and father to
4y/o Tommy. At weekends Eyal love to
take his family to road trip and explore
the country sides.

Perspective – Eyal is a romantic partner
and often take his wife to restaurants
and romantic places. but Hagit is
sensitive to gluten which makes choosing restaurants a difficult
task.

Scenario – In honor of his wife Hagit's 32nd birthday, Eyal wanted to
surprise her with a particularly impressive birthday cake! However, Eyal
did not find a gluten-free cake in the confectionery closest to his home
that would be suitable for a birthday celebration.

Eyal downloaded the Cake Maser app in order to create a custom cake for
Hagit. Eyal chose the option of automatic assembly and in the Personal
preferences section Eyal marked gluten-free restrictions and in special
requests section added that this cake is for a birthday celebration event
and tapped to the next step. The app visually presented him with a
number of options for the cake over the 3d cake board, and after choosing
the appropriate option for him Eyal chose the option of ordering from a
confectionery. After selecting the specific confectionery from the list, the
recipe and preparation instructions were sent to the confectionery to
make the cake, after receiving final approval for the order Eyal waited for
the preparation to finish. A few hours later, notification came through the
app interface that the cake was ready and he had to choose whether to
collect the cake independently or by courier, Eyal clicked on the order
through a courier option and continued preparations for his wife's birthday
celebration.



[3]

c. Romy Gal

13 y/o, living in Rachel Imenu St.
Jerusalem.

Romy is a 7th grade student, she has 2 younger siblings, aged 4 and 9, and likes to spend time with her friends. In the afternoons she participates in an artistic gymnastics class, and in a painting class, Romy has an active tic tac account and she uses her cell phone a lot.



Perspective – Romy really likes to make cakes with her mother and her little brothers and for her there is nothing like creating and making something sweet and delicious.

[3]

Scenario – On Friday morning Romy woke up her mother and brothers for the regular weekend cake they usually bake together. Romy and her brothers are already experienced in making cakes using the Cake Master app, so they banded together around the tablet and started using the app free style crafting interface to build the sweet chocolate cake they love, The app engine has already collected data on Romy's previous uses and after analyzing the data on the amount of sweets that Romy eats, the app then applied the knowledge to make a sugar-reduced recipe for them and with only natural substitutes in order to maintain the children's health. When they have finished creating the cake on the 3D cake dashboard painter, they chose the bake it yourself option but They noticed that they did not have all the ingredients for making the cake, the app immediately directed them to order / buy the appropriate ingredients ,after obtaining all the ingredients they began making the cake using the virtual baking assistant.

d. Yigal Meir

50 y/o, living in Hertsel St. Nahariya.

- Yigal is a pastry chef with 27 years of experience, married and a father of three children, he owns a boutique confectionery. loves to go to the sea and in his free time paddles in a kayak at sea.

Perspective – Yigal would like to expand the business he owns and increase his clientele, to financially support his family.



[3]

Scenario – Yigal arrived at work on Sunday morning and activated the Cake Master account on ready to bake mode, then began to prepare the confectionery for the working day. At 10:39, notification was received in the app about a new order. After reviewing the recipe and cake design, Yigal confirmed the order and pressed the bake button to obtain detailed guidance throughout all stages of preparation. When the cake was ready, Yigal pressed the ready to deliver button to inform the customer that the cake is ready.

2.2. System Perspective

This section will discuss about the overall system Perspectives

2.2.1. Software

Cake master system will be implemented as a responsive website and mobile application.

The system will be Consist of two main algorithms:

- a. Implantation of 3D design tool for building desert models
- b. Collecting data from different recipes over the web and build new recipes

2.2.2. Hardware

Mobile device, personal computer, tablet.

2.2.3. Data and Information

Personal user info and preferences, collecting data from web services, location information.

2.2.4. Processes

Process name	Signup
Participating actors	All actors
Flow of events	<ol style="list-style-type: none"> 1. Choose user type 2. provide personal information (name, sex, age) and choose password 3. provide dietary preferences (allergies, diet, vegan). 4. provide flavors preferences (favorite desserts).

Process name	Automatic dessert assembly
Participating actors	Home baker
Flow of events	<ol style="list-style-type: none"> 1. Open the app 2. User edits preferences (optionally). 3. Choose "Surprise me" mode. 4. App engine processes the past usage and user preference. 5. App engine will generate 3D model of dessert. 6. App engine Display the final 3D model.

Process name	Manual dessert assembly
Participating actors	Home baker
Flow of events	<ol style="list-style-type: none"> 1. Open the app 2. User edits preferences (optionally). 3. Choose "Let's start" mode. 4. App engine will display the 3D cake painter. 5. User drag pastry elements from the tool bar to the 3d cake board. 6. User customize the elements color, flavor and texture. 7. App engine Display the final 3D model

Process name	Making dessert using the virtual assistant
Participating actors	Home baker
Flow of events	<ol style="list-style-type: none"> 1. User watch the final 3D dessert model. 2. User choses Bake option 3. App engine will collect and combine recipes from the web for every part of the dessert, based on processed user preferences and limitations. 4. User Choose "Virtual assistant" mode. 5. App engine display interactive recipe interface which consist of step by step tutorial with photos, video and detailed explanations 6. User follow the virtual assistant instruction for making the dessert

Process name	Making dessert by local confectionery
Participating actors	Home baker, Service provider
Flow of events	<ol style="list-style-type: none"> 1. User watch the final 3D dessert model. 2. User choses Bake option 3. App engine will collect and combine recipes from the web for every part of the dessert, based on processed user preferences and limitations. <ul style="list-style-type: none"> ▪ User Choose "Search Confectionery". 4. App engine display list of nearby Confectioneries 5. User choses one Confectionery 6. Confectionery owner receives order request 7. Confectionery owner accepts the request 8. User receive request approval with price and timing details 9. User pays for the order 10. Confectionery receive payment 11. User get notifications from the Confectionery owner about the baking progress 12. Confectionery owner delivers the final result to the user

2.2.5. People

Cooks, home bakers, users who want cake on demand, confectioners.

2.3. Market Survey

Problem Survey:

When using our system, the original ideas and the personal taste of the user will be expressed by creating an interface for planning and building desserts in three dimensions, taking into account things like personal limitations, dietary limitations, allergies and more. Our system will also provide the user with the option to order the dessert to be made by a selected confectionery.

Solution Survey:

After reviewing similar apps and services available in the market, we found that there are some issues left unanswered and also there is no single service that covers all the requirements we mentioned on the problem Survey,

For example:

- Creating new and genuine recipes.
- ordering the dessert to be made by a confectionery.
- Design the dessert look ahead of preparation.
- Provide virtual assistant who will accompany the user throughout the preparation process

Analysis of similar systems that exist in the market compared to our system

Nowadays, there are many food-related apps that try to give the user a free hand in planning and choosing the recipes. We will delve into two sample services:

Yummly

The first company we will investigate is “Yummly”.

The company has website and mobile application that is used for finding recipes according to personal taste and limitations, the application allows the selection of a favorite type of cuisine, dietary restrictions and available ingredients.

The application then searches for recipes online that match the requirements, and finally gives a link to the recipe site.

Pros:

- 1) Efficient and easy-to-use interface.
- 2) Adapting the recipe to the user's limitations.

Cons:


- 1) Using premade recipes as is.
- 2) The user does not participate in the creation of the dessert.

Conclusion:

There is a need for a service that will let the user to design the desert as he wants it to be, and also to create a new and genuine recipe and not directing the user to other recipes websites.


In app screenshots:

Preferences page




[4]

Main page



[4]

Profile settings



[4]

Night Cookie [2]



The second company we will investigate is "Night Cookie". The company has a website for ordering cookie delivery, they have several options of pre-made cookies, and there is an option to order the dough and bake it yourself at home.

Pros:

- 1) The possibility of ordering the dough and baking in self.
- 2) Restrict by allergies and special requests.

Cons:

- 1) It is not possible to personalize the cookies.
- 2) They don't have a mobile application.
- 3) There is no virtual assistant in making the cookie at home.

Conclusion:

There is a need for an accessible mobile app and a convenient explanation of how to bake the dessert.

In app screenshots:



Home page



Order page



Homemade instructions

2.4. The Approach

Our system will consist of a mobile app and a website.

The system will provide the user with customized dessert recipes.

The user will be able to create desserts from scratch by assembling the dessert parts in a three-dimensional drawing interface where he will be able to choose flavors, colors, shapes, textures and more...

Once the user has completed the assembly processes, the system will search for recipes across the web for all dessert layers and assemble them into one new and original recipe.

Finally, the system will allow the user to order missing ingredients, request preparation by a confectioner or baking at home, accompanied by a virtual assistant throughout the baking processes.

2.5. Constraints

- In order to use the ordering system, the mobile application need access to the GPS navigation system within the mobile phone
- In order to create new recipes, the application needs internet connection

2.6. Assumptions and Dependencies

- In order to create new recipes, the application depends on external recipe websites

3. Functional Requirements

The following section will document the functional requirements of the system.

The Cake Master System may be divided into four parts for the sake of classification:

Account is the user account signup, login, personal information

Dessert is the part responsible for the dessert model generation,

Recipe is the part responsible for the recipe generation and virtual assistant interaction

Order is the process of ordering dessert to be made by service provider

Each part can be classified by one of the application's user types:

Non-registered user describes the user's first use of the application or the user using the application without registration.

Home baker describe the main user of the application who can create/edit/watch/share desserts and recipes

Service provider describe the secondary user of the application who is usually a confectionery or a pastry kitchen that can execute user's created recipes and deliver them to the customers (Home baker)

The requirements will be ranked using the MoSCoW analysis.

Account functional requirements

Non-registered user	
Requirement: non-registered user should be able to create account to sign in to the application.	
Application state: <ul style="list-style-type: none">- Device is connected to the internet	
Content: <ul style="list-style-type: none">- Display link "Don't have account?" on the Registration screen;- The link opens "Create account" screen;- Display standard signup form;- Display "Choose user type" dropdown which includes:<ul style="list-style-type: none">▪ Home baker▪ Service provider- For home baker show preferences form which includes:<ul style="list-style-type: none">▪ Dietary preferences▪ Allergies▪ Favorite food▪ Other limitations- For service provider show business info form which includes:<ul style="list-style-type: none">▪ Business name▪ Distribution area▪ Specialties- After filling all required fields allow user to press create account button;- Direct user to login page;	
Priority: M	

Non-registered user	
Requirement: non-registered user should be able to use the application without being registered.	
Application state: <ul style="list-style-type: none">- Device is connected to the internet	
Content: <ul style="list-style-type: none">- Display "Feed" button;- The link opens feed page showing other users dessert models;- Clicking one of the dessert models lead to dessert bake page;	
Priority: M	

Home baker	
Requirement: Registered Home baker should be able to use the application without internet connection.	
Application state: <ul style="list-style-type: none"> - Device in offline mode - User is registered and logged in 	
Content: <ul style="list-style-type: none"> - Display "Feed" button; - Clicking on Feed button leads to feed page allowing the user to see his personal past usage desserts models he already visited; 	
	Priority: M

Home baker	
Requirement: Registered home baker should be able to have access to primary features of the main screen.	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet - User is registered and logged in 	
Content: <ul style="list-style-type: none"> - Display three clickable blocks: <ul style="list-style-type: none"> ▪ Guided ▪ Quick start ▪ Feed - Clicking on each block leads to corresponding page with further functions; 	
	Priority: M

Service provider	
Requirement: Registered service provider should be able to have access to primary features of the service provider main screen.	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet 	
Content: <ul style="list-style-type: none"> - Display clickable block: <ul style="list-style-type: none"> ▪ Update availability status ▪ Update order status - Clicking on that block leads to corresponding page with further functions; 	
	Priority: M

Dessert functional requirements

Home baker
<p>Requirement: Home baker should be able to create new desserts using the guided process.</p> <p>Application state:</p> <ul style="list-style-type: none"> - Device is connected to the internet - User clicked the “Guided” block on main screen - User is registered and logged in <p>Content:</p> <ul style="list-style-type: none"> - Display series of screens showing preferences questionnaire with the following content: <ul style="list-style-type: none"> <u>Screen 1</u>: dessert purpose – Birthday Wedding Family dinner For fun; <u>Screen 2</u>: choose 3 favorite desserts – Show pictures of classic desserts; <u>Screen 3</u>: Time – 1-hour max 5 hours max above 5 hours; <u>Screen 4</u>: Difficulty – Easy Medium Hard <u>Screen 5</u>: vegan? Yes No <u>Screen 6</u>: diabetes? Yes No <u>Screen 7</u>: Kosher? Yes No <u>Screen 8</u>: Low calories? Yes No Calorie restriction slider <u>Screen 9</u>: pregnant? Yes No <u>Screen 10</u>: allergies – Egg-Free Gluten-Free Nut-Free Peanut-Free <u>Screen 11</u>: other restrictions? Show Text box for user input - When the user answers a question go to the next screen; - At the bottom of each screen display the following options as buttons: <ul style="list-style-type: none"> ▪ Skip ▪ Back ▪ Skip all
Priority: M

Home baker
<p>Requirement: Home baker should be able to choose how the application will generate his desserts.</p> <p>Application state:</p> <ul style="list-style-type: none"> - Device is connected to the internet - User is registered and logged in - User answered all or some of the “guided” section questions Or / User clicked “Quick start” on main screen; <p>Content:</p> <ul style="list-style-type: none"> - Display tow clickable blocks: <ul style="list-style-type: none"> ▪ “Surprise me” for automatic dessert model creation ▪ “Let’s begin” for building the desert using the cake painter - Clicking on each block leads to corresponding page with further functions;
Priority: M

Home baker	
<p>Requirement: Home baker should be able to generate new dessert models automatically.</p> <p>Application state:</p> <ul style="list-style-type: none"> - Device is connected to the internet - User is registered and logged in - User clicked the “Surprise me” option <p>Content:</p> <ul style="list-style-type: none"> - Application generates 3D dessert model according to: <ul style="list-style-type: none"> ▪ preferences supplied on the preferences questionnaire ▪ past usage ▪ personal information (age, sex, location) - Display the result on new page; - At the bottom of the page display tow clickable blocks labeled: <ul style="list-style-type: none"> ▪ Rebuild ▪ Edit preferences ▪ Edit dessert ▪ Bake - Clicking on “Rebuild” will generate new dessert model; - Clicking on “Edit preferences” leads to the preferences questionnaire; - Clicking “Edit dessert” leads to cake painter dashboard; - Clicking “Bake” leads to baking page; 	
	Priority: M

Home baker	
<p>Requirement: Home baker should be able to generate or edit desserts manually.</p> <p>Application state:</p> <ul style="list-style-type: none"> - Device is connected to the internet - User is registered and logged in - User clicked one of the following options: <ul style="list-style-type: none"> ▪ Let’s begin ▪ Edit dessert ▪ Quick start <p>Content:</p> <ul style="list-style-type: none"> - Display Cake painter dashboard screen which include the following elements: <ul style="list-style-type: none"> ▪ Elements tool bar on the right side of the screen ▪ Drawing area where the user can drag and drop element from the tool bar ▪ “Bake” button on the bottom of the screen - Clicking “Bake” leads to baking page; 	
	Priority: M

Home baker	
Requirement: Home baker should be able to use the elements tool bar on the cake painter dashboard screen to manually build or edit his 3d dessert model.	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet - User is registered and logged in - The cake painter dashboard screen is displayed to the user 	
Content: <ul style="list-style-type: none"> - The tool bar will have the following elements and options <ul style="list-style-type: none"> ▪ Shapes – Circle Heart Square Triangle Star free style brush ▪ Color picker ▪ Flavor picker – Vanilla Chocolate Orange Maple Honey Other ▪ Texture picker – Crunchy Dense Creamy Wet Dry Other ▪ Topping picker – Ganache picker Whipped cream Fruits picker Crumble ▪ Garnish picker – Candys Colored powdered sugar Chocolate chips Other ▪ Piping dedication – Dedication text box 	
	Priority: M

Home baker	
Requirement: Home baker should be able to view the dessert model he's building in 3D form.	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet - User is registered and logged in - The cake painter dashboard screen is displayed to the user 	
Content: <ul style="list-style-type: none"> - The drawing area will display the dessert in 3D; - On touch screen, dragging with finger on the screen will turn the desert view in 360 degree; - On pc, arrow keys will turn the dessert view in 360 degree; 	
	Priority: M

Recipe functional requirements

Home baker	
<p>Requirement:</p> <p>Home baker should be able to view the final recipe and choose how he want to bake the dessert that the application generated for him manually or automatically.</p> <p>Application state:</p> <ul style="list-style-type: none"> ▪ Device is connected to the internet ▪ User is registered and logged in ▪ The User clicked “Bake” button <p>Content:</p> <ul style="list-style-type: none"> - Display the final dessert model in 3d form; - Application search the web for recipes for all dessert layers based on the user preferences and restrictions, then generates full recipe; - At the bottom of the screen, Display 5 Clickable blocks as follow: <ul style="list-style-type: none"> ▪ Grocery list ▪ Print recipe ▪ Virtual assistant ▪ Search Confectionery ▪ Share - Clicking on each block leads to corresponding page with further functions; 	Priority: M

Home baker	
<p>Requirement:</p> <p>Home baker should be able to see grocery list and choose if he wants to buy ingredients from nearby grocery.</p> <p>Application state:</p> <ul style="list-style-type: none"> ▪ Device is connected to the internet ▪ The User clicked “Grocery list” button <p>Content:</p> <ul style="list-style-type: none"> - Display list of all the ingredients of the current recipe; - Display tow clickable blocks as follow: <ul style="list-style-type: none"> ▪ Buy ▪ Back - Clicking on the Buy button will display popup with links nearby groceries websites; - Clicking the bake button will lead back to the Bake page; 	Priority: S

Home baker	
Requirement: Home baker should be able to print the final recipe.	
Application state: <ul style="list-style-type: none"> Device is connected to the internet The User clicked "Print recipe" button 	
Content: <ul style="list-style-type: none"> Generate pdf document containing all recipe details and instructions; 	
	Priority: C

Home baker	
Requirement: Home baker should be able to use the application Virtual assistant to guide him through all recipe stages.	
Application state: <ul style="list-style-type: none"> Device is connected to the internet The User clicked "Virtual assistant" button 	
Content: <ul style="list-style-type: none"> Display first page of the Virtual assistant with the following content: <ul style="list-style-type: none"> Display the dessert model in small window at the top left of the window Display the full ingredient list at the center of the page Display 3 clickable blocks at the bottom of the screen <ul style="list-style-type: none"> Next Back Play Icon Clicking on each block leads to corresponding page with further functions; Clicking on the model window will open popup window showing full screen model presentation 	
	Priority: M

Home baker	
Requirement: Home baker should be able follow the recipe step by step using the Virtual Assistant	
Application state: <ul style="list-style-type: none"> Device is connected to the internet The User clicked "Next" button on virtual assistant pages 	
Content: <ul style="list-style-type: none"> Display ingredients of the current recipe step; Display instructions for the current recipe step; Display picture or video instructing the current recipe step if available; <ul style="list-style-type: none"> Display 3 clickable blocks at the bottom of the screen <ul style="list-style-type: none"> Next Back Play Icon 	
	Priority: M

Home baker	
Requirement: Home baker should be able Navigate through the Virtual assistant using the navigation buttons.	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet - The User clicked "Virtual assistant" button 	
Content: <ul style="list-style-type: none"> - If first page is displayed then clicking the Back button will lead back to the Bake page; - Clicking the Next button will lead to next pages of the virtual assistant; - Clicking Back button on every page that is not the first page of the Virtual; assistant will lead to the previous page; - Clicking next on the end page of the virtual assistant will lead to Share Result page; - Clicking the paly icon on the virtual assistant pages will read the text content on the screen to the user; 	
Priority: M	

Home baker	
Requirement: Home baker should be able Navigate through the Virtual assistant using the voice commands.	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet - The User clicked "Virtual assistant" button 	
Content: <ul style="list-style-type: none"> - If first page is displayed then saying the word the "Back" will lead back to the Bake page; - Saying the word "Next" will lead to next pages of the virtual assistant; - Saying the word "Back" on every page that is not the first page of the Virtual; assistant will lead to the previous page; - Saying the word "Next" on the end page of the virtual assistant will lead to Share Result page; - Saying the word "Read" will read the text content on the screen to the user; 	
Priority: S	

Home baker	
Requirement: Home baker should be able to share the dessert model and recipe he made.	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet - The User clicked "Share" button 	
Content: <ul style="list-style-type: none"> - Display tow clickable blocks <ul style="list-style-type: none"> ▪ Share to other cake master users ▪ Share on social media - Clicking on each block leads to corresponding page with further functions; 	
	Priority: M

Home baker	
Requirement: Home baker should be able to choose how he want to share the dessert model and the recipe he made.	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet - The User clicked "Share" button 	
Content: <ul style="list-style-type: none"> - Display tow clickable blocks <ul style="list-style-type: none"> ▪ Share to other cake master users ▪ Share on social media - Clicking on each block leads to corresponding page with further functions; - 	
	Priority: M

Home baker	
Requirement: Home baker should be able to share the dessert model and recipe he made to the app feed, so other users can watch and use it.	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet - The User clicked "Share on social media" button 	
Content: <ul style="list-style-type: none"> - Display input text box for writing comment about the current model - Display tow clickable blocks <ul style="list-style-type: none"> ▪ Upload image ▪ Share - If the user clicked the Upload image button, display pop up with image upload form uploading the end result image; - Clicking on the Share button will share the recipe alongside the dessert model with attached image (if uploaded) and comment (if added); - 	
	Priority: M

Home baker	
<p>Requirement: Home baker should be able to share the dessert model and recipe he made to the social media.</p> <p>Application state:</p> <ul style="list-style-type: none"> - Device is connected to the internet - The User clicked "Share to other cake master users" button <p>Content:</p> <ul style="list-style-type: none"> - Display drop down for social media selection: <ul style="list-style-type: none"> ▪ Facebook, twitter, Instagram - Display input text box for writing comment about the current model - Display tow clickable blocks <ul style="list-style-type: none"> ▪ Upload image ▪ Share - If the user clicked the Upload image button, display pop up with image upload form uploading the end result image; - Clicking on the Share button will share the recipe alongside the dessert model with attached image (if uploaded) and comment (if added); - 	
	Priority: w

Order functional requirements

Home baker	
Requirement: Home baker should be able order the dessert to be made by nearby confectionery.	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet - The User clicked "Search Confectionery" button 	
Content: <ul style="list-style-type: none"> - Display list of nearby confectioneries - Display green circle around confectioneries that their availability status is "Ready To Bake" - Clicking on confectionery from the list will send notification to the confectionery about new order with the recipe id and home baker id; - After notification sent, show popup with text saying "notification sent, wait for confirmation" 	
	Priority: M

Home baker	
Requirement: Home baker should be notified when the order is confirmed.	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet - The user requested for order from one of the confectioneries 	
Content: <ul style="list-style-type: none"> - If the confectionery confirmed the user order, the user will get notification with the following message and options: <ul style="list-style-type: none"> ▪ Estimated baking time ▪ Price ▪ Delivery price ▪ Display tow clickable blocks: <ul style="list-style-type: none"> <input type="checkbox"/> Confirm order <input type="checkbox"/> Cancel order ▪ Clicking on confirm order lead to payment page ▪ Clicking on Cancel order will send notification to the confectionery - If the confectionery rejects the user order, the user will get notification with the following message and options: <ul style="list-style-type: none"> ▪ "Sorry but the chosen confectionery cant process you order right now please try again later or choose another confectionery" ▪ Display tow clickable blocks: <ul style="list-style-type: none"> <input type="checkbox"/> Confectionery list <input type="checkbox"/> Virtual assistant ▪ Clicking on each of the blocks will lead to the corresponding page 	
	Priority: M

Home baker	
Requirement: Home baker should be able to pay for confectionery order.	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet - The user requested for order from one of the confectioneries - confectionery confirmed the user order - the user clicked confirm order 	
Content: <ul style="list-style-type: none"> - Display credit card payment form; - Follow common payment process; 	
	Priority: M

Home baker	
Requirement: Home baker should be notified about the confectionery baking progress.	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet - the user finished the payment process 	
Content: <ul style="list-style-type: none"> - Application sends notification posted by the confectionery as follow: <ul style="list-style-type: none"> ▪ "Start baking" ▪ "In process " ▪ "order is ready for delivery" ▪ "delivered" ▪ "order complete" 	
	Priority: M

Service provider	
Requirement: Service provider should be able to update his availability status.	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet - The user clicked Update availability status 	
Content: <ul style="list-style-type: none"> - Display tow clickable blocks <ul style="list-style-type: none"> ▪ Ready to bake ▪ Occupied - Clicking on each of the blocks will update the service provider availability status as shown to the customers confectionery list 	
	Priority: M

Service provider	
Requirement: Service provider should be notified on a new order received.	
Application state: <ul style="list-style-type: none">- Device is connected to the internet- the user clicked Ready to bake- Home baker sent order request	
Content: <ul style="list-style-type: none">- The user will get notification with the following message and options:<ul style="list-style-type: none">▪ Watch order recipe▪ Tow clickable blocks as follow:<ul style="list-style-type: none"><input type="checkbox"/> Confirm order<input type="checkbox"/> Reject order▪ Clicking on Reject order will send notification to user about rejection▪ Clicking on Confirm order will lead to confirm order page	
Priority: M	

Service provider	
Requirement: Service provider should be able to confirm order and send the order details for final confirmation.	
Application state: <ul style="list-style-type: none">- Device is connected to the internet- the user clicked Confirm order	
Content: <ul style="list-style-type: none">- Display confirmation form with the following inputs:<ul style="list-style-type: none">▪ Order price▪ Baking time▪ Delivery price- Display tow clickable blocks as follow:<ul style="list-style-type: none">▪ Send▪ Cancel- Clicking on send will send the confirmation details to the customer- Clicking cancel will send rejection to the customer	
Priority: M	

Service provider	
Requirement: Service provider should be able get payment confirmation to start the baking process	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet - the user clicked Send on order confirmation screen 	
Content: <ul style="list-style-type: none"> - The user will get notification about payment succeed; - Display clickable block labeled "Ok"; - Clicking the ok button will add order in progress to the list on Update order status screen; 	
	Priority: M

Service provider	
Requirement: Service provider should be able inform the customer about the order progress at any stage	
Application state: <ul style="list-style-type: none"> - Device is connected to the internet - The user got orders in progress - User clicked the Update order status link on main page 	
Content: <ul style="list-style-type: none"> - Display list of payed orders; - If order is completed, display green circle next to the list item; - If order is in progress, display orange circle next to the list item; - Clicking on list item of in progress order will display dropdown popup with the following options: <ul style="list-style-type: none"> ▪ "Start baking" ▪ "In process " ▪ "order is ready for delivery" ▪ "delivered" ▪ "order complete" - Choosing item from the drop down will send message notification to the customer with the text shown on the list item; 	
	Priority: M

4. Non-Functional Requirements

The following section will document the non-functional requirements of the system.

Privacy Requirements:

- Personal preferences of the registered user won't be visible to other users
- Location data of registered user will only be visible to service provider and only during order in progress

Security Requirements:

- Personal details, login name & password, must be remain confidential.
- Credit card details must be remain confidential.

Efficiency Requirements:

- The application shall be easy to use and intuitive
- The application shall have a user-friendly interface

Accessibility Requirements:

- The application should work in offline mode, without internet connection

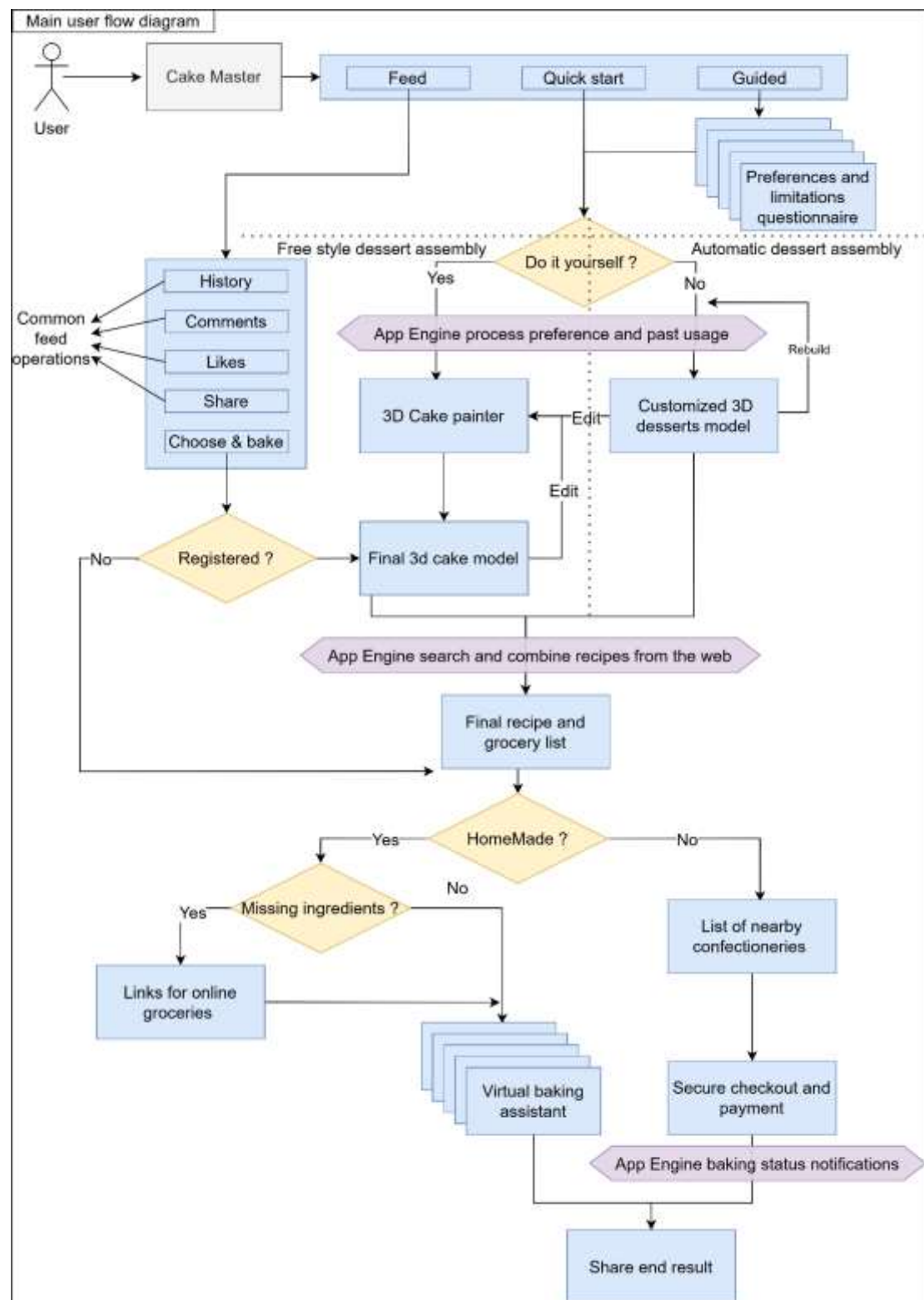
5. System Flows

This section will demonstrate the system operation in form of system flow diagrams

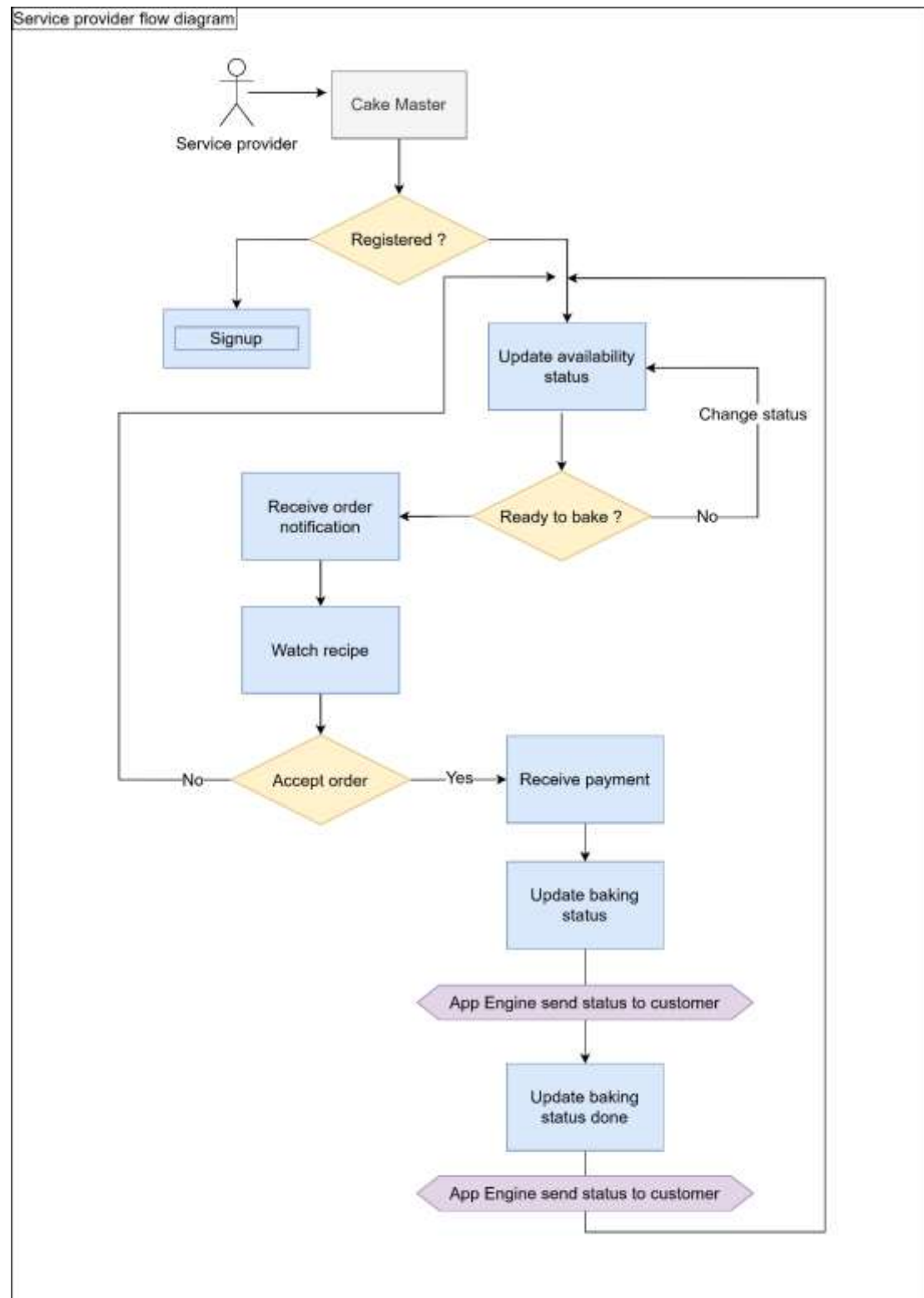
The following diagrams will represent these user stories

- Main user flow
- Service provider flow
- Signup/login flow

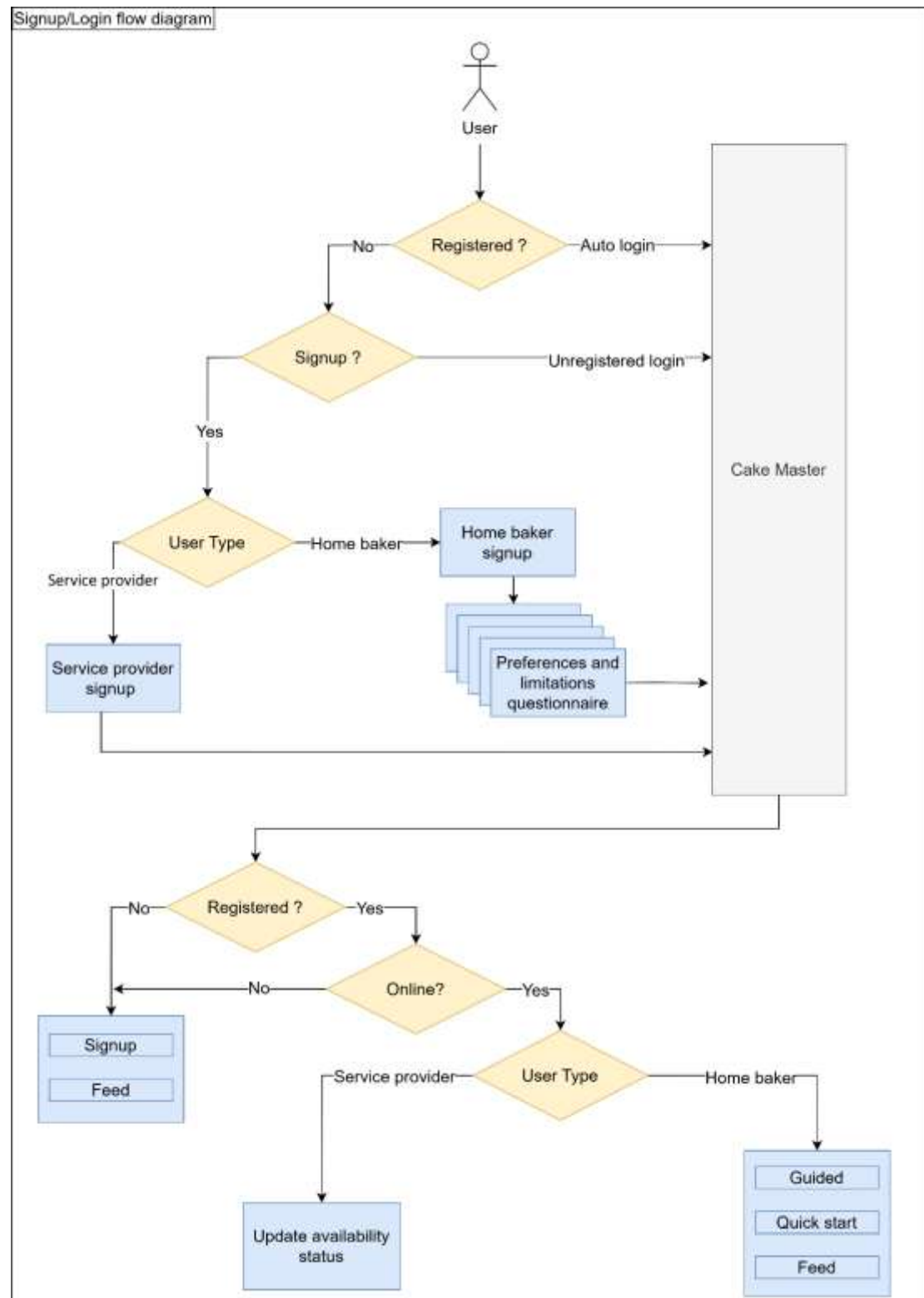
Main user flow



Service provider flow



Signup/login flow



6. System Screen Specifications

Following are the screen specifications of the system.

- Mobile device
- tablet
- Personal computer

7. Non Goals

The following section will discuss the goals that were explicitly excluded from the project scope

- The system does not intend to teach baking
- The system focuses on creating new recipes, not for searching recipes that already exist throughout the network

8. Open Issues

Following are the system's open issues.

- The system ability to handle creation of recipes under "to many" user limitations
- A way to ensure that service provider is not using substitutes for recipes ingredients

9. References

[1] <https://www.pillsbury.com/>

[2] <https://pitchbook.com/profiles/company/125296-21#overview>

[3] <https://depositphotos.com>

[4] <https://www.yummly.com>

[5] <https://www.nightcookie.com>

Appendix-A

Risk Analysis

- 1. The risk:** generating a recipe that does not comply with one of the user's health restrictions

Action to be taken: Filter sites adapting their recipes by health restrictions
- 2. The risk:** Theft of credit card information

Action to be taken: Use secure external payment service
- 3. The risk:** Personal information exposure

Action to be taken: Use safety algorithms and data encryption for personal data