Team #15: Menive - Live Menus

Project Phase #1

INSO4101 - 040
Prof. Marko Schütz
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Informative Part

1.1 Team

Team #15: Menive (Live Menus)

Mayagüez, Puerto Rico

March 18, 2022

Developer Team:

- Edjoel Colon Nogueras

- Carlos Nuñez Sosa

- Daniel López Moreu

- Jean Santana Morales

- Ricardo Rodriguez Gonzalez

Stakeholders:

- Marko Schütz

- Ricardo J. Vélez Davila

1.2 Current Situation, Needs, Ideas

1.2.1 Current Situation

Searching for a local food service such as a restaurant, fast food, food truck, coffee shop, or any other, people may be interested in having a look at the menu first. Most of the time, to find the menu, customers take a look at the business's Facebook page with the information dispersed through different posts. The biggest setback is having to search for the menu within the page's photos.

This is problematic since menu options, or their prices may change. Especially during the Covid-19 pandemic where all businesses have experienced some sort of shortage, causing prices to fluctuate, limited serving quantities, or just making some menu options not available. Another setback is trying to figure out what the content of the images states. Pictures mostly show up as too dark, too bright, too blurry, or with a difficult to read handwriting. Therefore, businesses are losing customers. All of this hassle is brought about by the lack of an accessible and organized platform that provides a live menu to the business's potential customers.

1.2.2 Need

Currently, there is a need for a platform that allows businesses to share their menu options in real-time with their customers. With everything coming back to normal and more people going out to have a meal, there's no time to waste. Businesses need their customers to know what they are going to order is available without the need of asking in person; thus reducing the negative reviews, customers' disappointment, and business serving time. At the time of writing this proposal, there aren't any platforms providing such previously mentioned services.

1.2.3 Ideas

To fulfill these needs, the team will develop a platform to allow businesses to create their menu, as well as easily update it in real-time. Customers would have the option to subscribe to a menu, to get notified of any last-minute menu update, and to review any particular item in the menu. The idea is for the platform to be free and easy to use for both the customer and the business.

1.3 Scope, Span, and Synopsis

1.3.1 Scope and Span

This platform aims to have local restaurant owners update their menus, locations, and opening and closing times as easily as possible for the restaurant owners and for the consumer to read and be aware of this information if it changes or not. The platform will have an option to create an account. Once a business is registered, it will be able to add and customize its page. An option for menu display will capacitate the page to have dropdown options where a variety of options can be showcased, depending on the needs of the business. This helps to organize and categorize the menu. Once the desired option is selected, the page will redirect to another, where more specific information will be found.

1.3.2 Synopsis

The goal of this project is to develop a platform that promotes the restaurant menus and other information as easily and fast as possible for the people that want to go to a certain restaurant to see. In addition, this platform will expand small local businesses in Puerto Rico.

1.4 Other Activities than just developing Source Code

- Identify various local food services that may use our platform.
- Planning and strategizing ways to promote the platform.

1.5 Derived Goals

Another goal is to promote tourism in Puerto Rico and encourage tourists to try local food services; thus improving the local economy.

Descriptive Part

2.1 Domain Description

2.1.1 Domain Rough Sketch

The domain of this proposal is meant for all kinds of restaurants, fast food, food truck, coffee shop, or any other kind of establishment which has a menu where their customers order. In general, a user can be a customer or an establishment. Both will have a variety of functions unique to each other. The service will help the establishments guarantee that they can bring the best service to their guests. On the other hand, the guests will leave each establishment satisfied in terms of how organized their menu and information are. The domain will have a variety of functions from which it will have two perspectives, the establishment's, and the customer's. Both should have an assurance that everything that is done will be fully acknowledged by each party. After completion, it is expected that this platform will help promote local establishments in gastronomy inside Puerto Rico, by being able to make a presentable menu and info.

From the establishment's perspective, the domain would include the following functions:

1. Create an account in which you can provide information about your establishment such as name, location, photos, kind of food, phone number, etc.

2. Create a menu in the style of your liking with the template you would like
3. Update the menu (for example if a plate is no longer being prepared at the establishment, you can take it out of the menu)
4. Upload daily or weekly specials in your establishment
5. Create an option where you show your customer if your establishment has pick-up, delivery, outside quarters, or closed quarters.
6. Due to the COVID pandemic, you can let the guests know about the current executive order and how it affects your establishment.
7. Offer the option of a reservation if your establishment is a restaurant
8. See the reviews left by your customers

From the customer's perspective, the domain would include the following functions:

1. Search for establishments that the customer wants to go to or the ones closest to him.
2. See the general information of the establishment such as name, location, phone number, etc.
3. See an updated version of the establishment's menu with pictures
4. Call to make an order
5. Ask questions
6. Provide reviews
7. If the customer wants to make a carry-out or delivery order, he can choose which items he would like to order and check out through the service.

2.1.2 Terminology
- Food Service - a business that focuses on food preparation.
- Menu - a set of options offered
- Customer - a person that buys goods or services from a business
- Manager - a person responsible for administering a business
- Owner - a person who owns something
- Employee - a person employed for wages or salary
- Food - any consumable substance that provides nutritional support for an organism.
- Service - doing work for someone
- Order - request something to be served or supplied
- Pricing - a value of a product or service
- Nutrition - food necessary for health and growth.
- Local - an inhabitant of a particular area
- Locale - a place where something happens or is set

2.1.3 Domain terminology in relation to domain rough sketch

- Restaurant - place where people pay to sit and eat meals prepared on-premises
- Fast Food - food that is prepared quickly and easily
- Food Truck - a large vehicle equipped with facilities for cooking and selling food
- Coffee Shop - a cafe serving coffee and light refreshments
- Platform - a digital service that facilitates interactions between two or more distinct but interdependent sets of users
- Gastronomy - the practice or art of choosing, cooking, and eating good food.
- Establishment - a business organization, public institution, or household

2.1.4 Narrative

- As a business, having a platform where the locals' real-time information such as open/close hours, location, telephone number, and hygiene and safety information may be of great benefit. Also, being able to showcase menu options, main plates, seasonal events, or special offers. Being able to change the options of our menu and their prices, while letting the customers know without them having to come personally, is beneficial with a proper platform. With our current situation, regarding COVID-19 (and other variants), we want to minimize contact with our customers for their safety and ours, thus menus have evolved to online versions that are accessed through QR Codes. Providing them a safe contactless platform in which they can access up-to-date information through the QR code system. This could attract more

customers to visit the page and locale. Another benefit is that customer flow will improve, as customers will have an idea of what they would like to order, even before arriving.

- As a customer, I want to be able to access a restaurant's information with ease. Having the option of accessing a platform to which I could view the restaurant's most recent offers, find all of the contact information, leave reviews or comments regarding different aspects of the service, and receive notifications of any update/changes that may occur to the information or menu. Before heading to the restaurant I want to be sure that the menu option I'm going to be ordering is going to be available once I arrive at the restaurant. I do not want to waste any time on getting to the place or to choose another option, considering that the desired one is unavailable.

2.1.5 Events, Actions, Behaviors
- Domain Events
  - Account was created.
  - *About Us* information was added.
  - Menu list was added.
  - Notification was sent.
  - Comment was added.
  - Menu list was updated.
  - *About Us* information was updated.
  - Search was successful.
- Domain Actions
  - Business wants to create an account.

- ○ Business wants to modify *About Us*.
- ○ Businesses want to display their menu.
- ○ Customers want to find a specific locale.
- ○ Users subscribe to a page to receive notifications.
- ○ Users want to leave comments.
- Domain Behaviors
  - ○ Account Creation.
    - ■ **Action**: Business creates an account.
      - ● **Event**: User account was created.
  - ○ *About Us* Modification.
    - ■ **Action**: Business wants to modify *About Us*.
      - ● **Event**: *About Us* information was added.
      - ● **Event**: *About Us* information was updated.
  - ○ Menu Display.
    - ■ **Action**: Businesses want to display their menu.
      - ● **Event**: Menu list was added.
      - ● **Event**: Menu list was updated.
  - ○ Search for food service.
    - ■ **Action**: Customers want to find a specific locale.
      - ● **Event**: Search was initialized.
      - ● **Event**: Search was unsuccessful.
      - ● **Event**: Search was successful.
  - ○ Rating a page or food service.
    - ■ **Action**: User wants to leave a comment.
      - ● **Event**: Comment was added.
  - ○ User wants to be informed of changes.
    - ■ **Action**: Users subscribe to a page to receive notifications.
      - ● **Event**: Notification was sent.

2.1.6 Function Signatures

- Account Creation:
  - ○ **NewAccount: Business x Owner -> User**
- Menu Display:
  - ○ **ShowMenu: Business -> Dictionary(Menu)**
- Search Food Service:
  - ○ **SearchLocale: String -> Business**
- Rate Food Service:
  - ○ **Rate: Rating x Business -> Rating**
- Notifications:

○ **NotifyMenuChange: Business x Menu -> String**

2.2 Requirements

2.2.1 Domain Requirements

- The system must be able to:
    - Store the user's profile.
    - Store the different types of menus from all the restaurants in the area.
    - Allow the users to search for menus.
    - Allow for the user to select their favorite menus/places to eat.
    - Notify users if any of their favorite menus/places to eat made changes to their menus.
    - Provide the user with the ability to separate a day and time and create a schedule for them.

2.2.2 Interface requirements

- The system must:
    - Allow the users to choose whether to create a new profile or login into an existing profile.
    - Scale and display properly on any device.
    - Display all the relevant information on a restaurant's menu once the user has selected that restaurant.
    - Display a list of all the different restaurant menus in the area for the user to choose, sort, and search at their discretion.
    - Allow the user to see their history on which restaurants they have chosen in the recent past.
    - Have previous and next capability for web version
    - Display to the users the restaurant's rating.

2.2.3 Machine Requirements

- The database must verify the credentials within 400ms.
- The system must run on both mobile and desktop web browsers.
- The system must allow for 1000 users to be online at a time.
- The system must be able to hold 200 different types of menus at any given moment within the database.

- The system must modify the user's favorite list within 500ms.
- The system must load the menu from the database within 500ms.

2.3 Implementation

2.3.1 Selected Fragments of the Implementation

- Even though the Java programming language might not be used for implementation, it will be used for the pseudocode and flowcharts during the making of this project. Java will be used due to the team's fluency in the language.
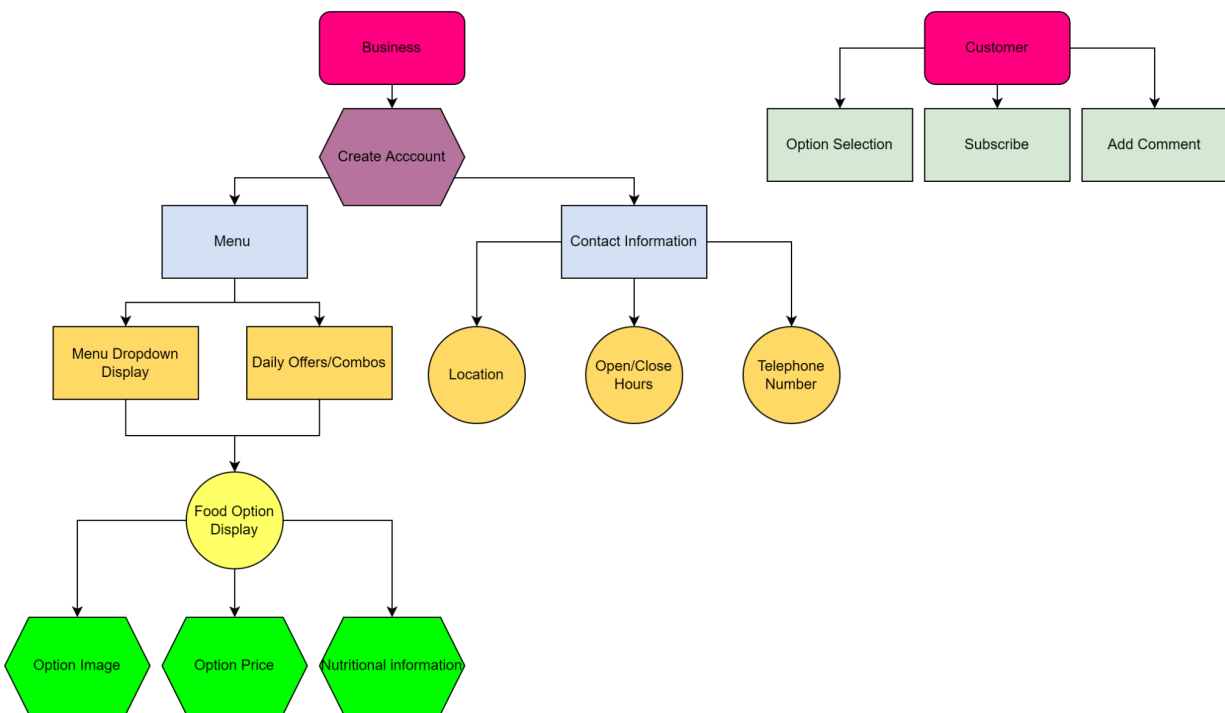

Diagram #1

- As seen on **Diagram #1** there is a division between the business user options and the customer user options.
- If a business decides to create an account, they will have a top level section where a dropdown with the word *Menu* is displayed. This will redirect the user to a second level where a dropdown menu will appear. This will display the different food options in list format. If an option is selected, a new page will open with An image of the plate, price, deals or offers, and nutritional information.

- On the same level as the *Menu* is displayed, hence the color coding, we may find a *Contact Information* option. The *Contact Information* option redirects the user to a new level, page, where they may find the business' location, open and close hour(s), and telephone number(s).

Analytic Part

3.1 Concept Analysis

- Anyone that uses the app can see all the establishments on the island or near them.
- A menu will be shown by selecting the establishment.
- Customers can see the food offered by the establishment.
- Customers can see the information of the establishment such as name, location, and phone number.
- Customers can order their food through the service.
- Customers can rate and review the service provided.
- Establishments can create an account, add information
- Establishments can create, update, and edit their menu.
- Establishments can answer buyers' questions.
- Establishments can see their customer's reviews.

3.2 Validation and Verification

The validation of the service will be carried out by a series of parties starting at the end of the project's span. After the semester is over, the service will continue to be validated by its creators and its users. The feedback and validation provided will help to achieve the service that wants to be proposed. The primary feedback will come from Marko Schütz-Schmuck, professor of the course and project manager. His feedback will be considered as the most important one and his suggestions will surely give the service a good start. The second feedback will come from the team members and the classmates of the semester. The idea of having young different minds bringing their

different opinions on what can be fixed will sure help a lot in making the service a workable one. The final and the longest feedback will come from the users who will review our work. Their firsthand experience in using the service will surely help us in the future.

The verification of this project will be done throughout the whole duration of the project via testing. As the service is being put together, the team members will test it to make sure that all is working as it should. The verification will be done daily by users and creators. Nevertheless, the verification of other classmates and the professor will be valuable too. They will be an extra set of minds who will give us acknowledgment of our work and project. An example of this verification can be to run the program on different systems such as Linux, Microsoft, and Mac-OS.

3.3 Application of topics, techniques, tools, methods, … from the lectures

3.3.1 Algebras and closure under operations

This section is still undergoing tests and further investigation regarding function closures and improvements.

3.3.2 Time management, scheduling, planning

| Week _X_ Planner				
Team members:	Roles:	Clock-in	Clock-out	Implementation
Edjoel Colon Nogueras	TBA	X	X	TBA
Carlos Nuñez Sosa	TBA	X	X	TBA
Daniel López Moreu	Back-End Developer, Database Manager, Project	X	X	TBA

	Manager			
Jean Santana Morales	TBA	X	X	TBA
Ricardo Rodriguez Gonzalez	Front-End Developer, UI Manager, Project Manager	X	X	TBA

*TBA = To Be Announced

Table A

For time management, scheduling, and planning, the team is still working on adjustments to decide specific roles and work planning for fair load distribution. As an example of a record-keeping format, we see in **Table A** the distribution of roles, time measurements, and productivity. These tables are to be updated weekly and readjusted to workload distribution.

3.3.3 Agile
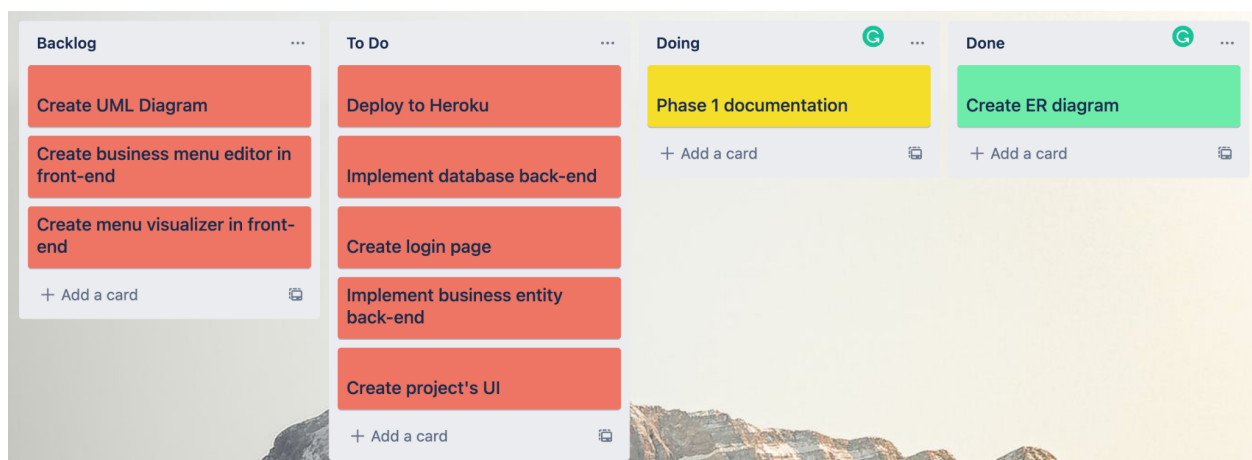
Board 1

Tasks were placed on a board, then the team played multiple rounds of Planning Poker in which each task was given Story Points, thus determining the priority of each task on the board.

Name	Story Points
Daniel López Moreu	3
Ricardo Rodriguez Gonzalez	3
Carlos Nuñez Sosa	2
Edjoel Colon-Nogueras	2
Jean Santana Morales	1

Table B

Once the Story Points were assigned, each task was given to each team member, and a sprint planning meeting was held in order to decide how to complete the given tasks and answer any inquiries. Once the meeting concluded the team members started to work on their given tasks and revise the proper documentation. In order to maintain every team member updated on the progress, a meeting was scheduled for four days after.