

MANAGEMENT SYSTEM OF A SEASIDE RESORT

DEVELOPMENT TEAM

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GENERAL DESCRIPTION

The project will be based on the creation of a management system for a bathing beach. The Web App will foster digitization, a very important issue in this pandemic period, by imposing an online booking and payment system for customers, in order to eliminate the presence of a physical ticket office.

Customers, upon registration, will be able to book umbrellas directly from their device. Furthermore, it will be possible to order food directly in the dedicated section, without having to go to the bar.

The lifeguards and the kitchen will respectively have a view containing the occupancy status of the umbrellas and customer orders.

For the administrator, a dashboard will be provided containing a summary of earnings, reservations and daily orders, with the ability to view orders and earnings for a period of time and a section for adding or removing personnel from the database.

ARCHITECTURE

Used technologies:

- Java Servlet classes for the acceptance of http requests, for the construction of the related response web pages and for the process of validating and processing the data entered by the client.
- JavaBean classes for the data model to be processed.
- Deployment Descriptor for the management of error pages.
- HTML, CSS and JavaScript, with an attached JQuery library, for managing the user interface.
- Apache Tomcat, as middleware for the deployment of the Web Application.
- MySQL as database management software.

FUNCTIONAL REQUESTS

Generals:

- Must present a welcome screen with a registration form and a relevant login section if the user is already registered.
- Once logged in, the user will be redirected to his respective view based on the role in the database.

Client side:

- User view.
 - BOOKING: JSP page from which the user will enter an input date and will receive the list of umbrellas still available for that date with an attached booking button.
 - MENU: JSP page containing the menu offered by the beach with the possibility of ordering and adding it to the cart.
 - CART: JSP page containing the summary of the food ordered with the possibility of completing the order with an attached payment.
- Kitchen view.
 - ORDERS: JSP page with customer orders.
- Lifeguard view.
 - VIEW: JSP page similar to the BOOKING page containing the occupancy status of the day umbrellas.
- Administrator view.
 - DASHBOARD: JSP page containing a summary of orders and earnings.
 - EDIT: JSP page containing the possibility of adding or removing personnel from the database.

Server Side:

- Development of Java Servlet to perform the function of controller.
- Development of DAO (Data Access Object) classes for query execution.
- Development of JavaBean classes for the data model.
- Creation of six tables based on the relational model in the MySQL DBMS.

DATA MODEL

- **USERS**([USR_EMAIL](#), USR_PASSWORD, USR_FIRSTNAME, USR_LASTNAME, ROLE_ID)
- **ROLES**([ROLE_ID](#), ROLE_NAME)
- **UMBRELLAS**([UMB_ID](#), UMB_ROW, UMB_PLACE, UMB_PRICE)
- **FOOD**([FOOD_ID](#), CAT_ID, FOOD_NAME, FOOD_DESCR, FOOD_PRICE)
- **CATEGORIES**([CAT_ID](#), CAT_NAME)
- **ORDERS**([ORD_ID](#), ORD_DATA, ORD_TIME, ORD_TYPE, ORD_BOOKINGDATA, ORD_DETAILS, ORD_TOTAL, ORD_NOTE)

NOTE

An MVC approach will be followed for the development of the Web Application. On the client side, the AJAX programming technique will be used to invoke the servlets.

The various error pages will be managed and customized (access denied, 404, 500) to ensure that the user never sees the stacktrace if an exception is thrown.

To filter kitchen orders or umbrella reservations, the "TYPE" attribute of the "ORDER" table will be used.

The "DETAILS" attribute will contain either the food list, in the case of ordering the menu, or the ID of the umbrella booked. This ID will be used, through a nested query, to check the availability of umbrellas on a certain date on the "BOOKING" page.

Below is a mockup, created on the iPad with the "Procreate" drawing app, concerning some of the various views that will be created for the Web Application, in order to be clear during the implementation phase where to place the related elements.



WELCOME TO
LIDO BEACH

LOGIN

REGISTRATION FORM

FIRSTNAME: _____

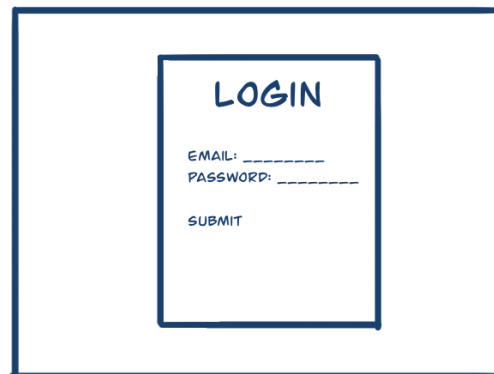
LASTNAME: _____

EMAIL: _____

PASSWORD: _____

SUBMIT

INDEX



LOGIN

EMAIL: _____

PASSWORD: _____

SUBMIT

LOGIN



BOOK YOUR UMBRELLA

INSERT DATA: 25/07/2020

UMBRELLAS AVAILABLE

ID: 4	ROW: 1	PRICE: 15.00	BOOK
ID: 8	ROW: 2	PRICE: 10.00	BOOK
ID: 9	ROW: 3	PRICE: 7.00	BOOK

BOOKING - USERVIEW



MENÙ

PIZZA HAMBURGER FISH

ICE CREAM FRUIT

MENU - USERVIEW



CART

PIZZA MARGHERITA	€3.50
FISH FRY	€10.00

TOTAL	€13.50

BUY

CART - USERVIEW



DASHBOARD

EARNINGS THIS MONTH
€1.532

EARNINGS TODAY
€135

KITCHEN ORDERS TODAY
13

BOOKED UMBRELLAS TODAY
7

DASHBOARD - ADMINVIEW