

North Island College

Development Foundations - DGL-104-CVS1

MIT App Inventor Project

App: My Restaurant. (Version 2)

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My Restaurant App is an application for cell phones in which you can order food in a restaurant. This application has three screens:

Screen1: This screen has the following components:

- Logo
- Qualification
- Dropdown list to select the table number
- Button to start the new order
- Button to review the history of orders saved in a database

Order: This screen has the following components:

- Order date (date the order is placed).
- Title with pre-selected table number.
- Logo
- Drop-down list of dishes (5 pre-established dishes).
- Drop-down list of drinks (5 pre-set drinks).
- Multi-line text field to record order observations.
- Button to add item to the order.
- Button to register the complete order in a database.
- Section where all order items are recorded

Historical: This screen has the following components:

- Qualification
- logo
- Three labels that act as a header for order history information
- Section with order information previously saved in the database



Functionality

Screen Screen 1

On the Screen1 screen, users will be able to register orders for each table. Users must select a table number and click on the "Start new order" button (if you have not selected a table number, you will get a message indicating "Select a table number "), after clicking you will go to the second screen 'Order'. On the Screen 1 screen, the user will also be able to review the order information registered in the database, for which they must click on the "Check order history" button, which will take them to the "Historical" screen.

Order Screen

On the Order screen, the user must select the dish and drink desired in their order and can register an observation about the dish, then they must click on the "ADD" button (if they have not selected a dish and a drink, they will get a message indicating "please the dish and drink fields") and the information will be added at the bottom of the screen, if the user wishes they can register more dishes to their order by following the previous steps. Once the user has selected all the dishes and drinks in their order, they can register their order information in the database by clicking on the "CONFIRM" button. He can also go back to the Screen1 screen by clicking on the back of the phone.

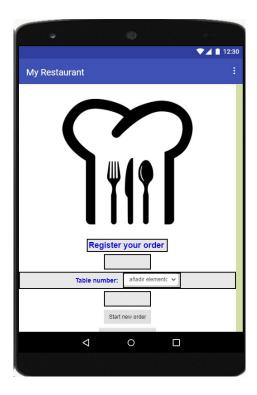
Historical Screen

The user will be able to access the Historical screen from the "Check order history" button, in which they will be able to review the details of the orders previously recorded in the database. On this screen there is a "Delete BD" button where the user can delete all data from the database by clicking. The user will return to the "Screen 1" home screen by clicking the back button on the phone.

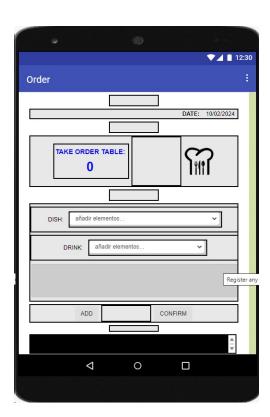


Below are the design screens and code blocks:

Screen1:

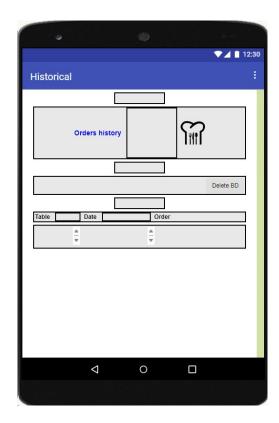


Order:





Historical:



Below are some fragments of the code blocks, for more details you should review the restaurant.aia file:

Screen "Screen 1":

```
cuando Inicial Clic
ejecutar si si entonces poner global mesa a NMesa Selección vabre otra pantalla con un valor inicial Nombre de la pantalla Order valor inicial tomar global mesa sino llamar Notificador valor inicial valor inicial valor inicial valor inicial tomar global mesa valor inicial valor inicial tomar global mesa valor inicial valor inicial
```



Screen "Historical":

```
cuando Historical . BotónAtrás
 ejecutar abrir otra pantalla Nombre de la pantalla Screen1 🔻
              Abre una nueva pantalla en una aplicación de múltiples pantallas.
inicializar global (salida) como 🌓 😝 crear una lista vacía
cuando Historical . Inicializar
ejecutar poner global salida 🔻 a 🔝 llamar (BD_Pedidos 🔻 .ObtenerValor
                                                                           Mesas
                                                 valorSiEtiquetaNoExiste
          poner MESA . Elementos como
                                                  tomar global salida
                                   llamar BD_Pedidos ▼ .ObtenerValor
          poner global salida 🔻 a 📗
                                                                           Fecha
                                                               etiqueta
                                                 valorSiEtiquetaNoExiste
          poner Fecha . Elementos como tomar global salida
          poner global salida 🔻 a 📗
                                   llamar BD_Pedidos ▼ .ObtenerValor
                                                 valorSiEtiquetaNoExiste ( crear una lista vacía
                          . Elementos 🔻 como 🌘 tomar (global salida 💌
          poner Orden
cuando Borrar_BD . Clic
ejecutar Ilamar BD_Pedidos .LimpiarTodo
          abrir otra pantalla Nombre de la pantalla Screen1 •
```

Application development

To make this application, some App Inventor tutorials on YouTube were reviewed and some functional tests were carried out. In these tests, adjustments were made to the code blocks. In addition, tests were carried out on the use of the design; adjustments were made to the design and the texts until verifying that they are easy to understand for users

Application review.

A classmate (Jhon) reviewed the application and indicated that he considers the application to be very intuitive, that he liked the design and functionalities, however he made some observations about the design of the database information shown in the "Historical" screen because it was not possible to read the information properly, and he also suggested that the application should have an option to delete the database. Given Jhon's observations, some adjustments were made to the code and design to better read the information in the database (historical) and to add the option to delete the database with a "Delete BD" button on the historical screen.



Refactoring.

A refactoring process was carried out on the block code of the first version of this application, which resulted in the following:

- The name of several components in the design of the application was changed, in addition in
 the blocks section the names of the variables were changed and in general all the code was
 placed in English, before this refactoring there was information in Spanish, the purpose to
 make this name change is to have a standardized code in the same language, this will facilitate
 maintenance in the future.
- The code blocks were organized, before the refactoring there were variables declared in some
 places of the block panel, now all the variables are declared at the beginning of the code, in
 addition the code was ordered in such a way that the blocks are more understandable for a
 future maintenance:

```
alize global mesa to 📗 get start value
   lize global time to 🚺 🕕
 itialize global table_list to 🧲 😥 create empty list
nitialize global date_list to 🕻 🧿 create empty list
 itialize global order_list to 🥻 👩 create empty list
 nitialize global counter to 💨 🕕
initialize global dish to 📜 " 📳 "
nitialize global drink to 📜 📳
  ialize global observation to
   alize global order to 🗼 " 📳 "
    lize global (list) to 🧧 🔯 create empty list
 tialize global order_dishes to
  ialize global order_2 to 🔰 false 🔻
      Order v Initi
     set Number_table . Text to get global mesa
      set global date_list * to call BD_Order * .GetValue
                                                         tag
                                                                 Date
                                          valuelfTagNotThere
                                 call BD_Order .GetValue
      et global order list to
```



• The code was reviewed and it was verified that there were very large blocks of code, so the feasibility of dividing a block into two parts was seen. Before this block was large and difficult to understand, now it is more understandable.

Before refactoring (only one block existed):

```
when Order .Initialize
do set global time to
                         call Time_Clock . SystemTime
    set Date . Text . to
                             join | call Time_Clock - .DayOfMonth
                                                                        get global time -
                                        · 0 ·
                                      call Time_Clock . Month
                                                                   get global time *
                                         U.
                                        call Time_Clock . Year
                                                                 get global time
    set Number_table . Text . to get global mesa .
     set global table_list = to call BD_Order = .GetValue
                                                           Table "
                                     valuelfTagNotThere
                                                          create empty list
                             call BD_Order . GetValue
    set global date_list to
                                                          Date
                                     valuelfTagNotThere
                             call BD_Order . GetValue
    set global order_list = to
                                                           Order
                                      valuelfTagNotThere
                                                         create empty list
```

After refactoring (there are two blocks that have the same functionality as before):

```
set Number_table . Text to get global mesa
   et global table_list v to call BD_Order v .GetValue
                                   valuelfTagNotThere
  set global date_list to call BD_Order .GetValue
                                   valuelfTagNotThere
                           call BD Order . GetValue
  set global order_list * to
                                    valuelfTagNotThere
n Time_Clock . Timer
 set global time * to call Time_Clock * .SystemTime
 set Date . Text to
                                     call Time Clock . DayOfMonth
                                                                      get global time *
                                      .
                                     call Time Clock *
                                                                  et global time *
                                       o.
                                     call Time_Clock
                                                               get global time
```



References

https://www.youtube.com/watch?v=zIzLOtZEx1g&list=PLwMWARFV3qSr_B0dlewfvIExuuYogisHP

https://www.youtube.com/watch?v=iikDKBFMiQI

https://www.youtube.com/watch?v=rl2GX Ghl-o