

Gas Delivery: Application for the management of the delivery of the gas

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- 1 Introduction
- 2 Needfinding
- 3 Technologies, Interfaces and Functionalities
- 4 Usability Tests
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Gas Delivery: What is about?



- Native App for the management of the delivery of the gas and its products, where there isn't a Gas network .
- Client Side & Business Side.
- Goals: Improve the methods of ordering, packing and delivering the gas and its products.

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Lara: Client Side

Lara is a 40 years old housewife, member of a 5-members family and uses in average 4 gas cylinders a month.
She is confident in using simple apps.

Kristi: Business Side

Kristi is responsible for the delivery of the orders. He checks the details of the orders and confirm the packing.
He is confident with using simple mobile apps and mostly Google products.

To evaluate:

- The necessity of an application of this context.
- The frequency of use of an application like this.
- The alternatives to this application.
- How can an order application be structured to fulfill their needs.

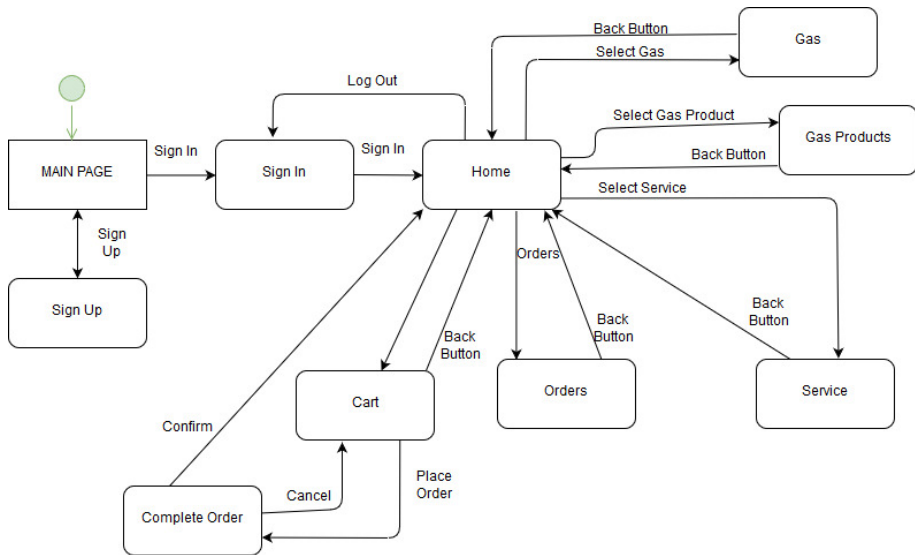
To evaluate:

- The interest in an application of this context.
- The type of products and services they offer.
- Increasing of visibility of the company online.
- Advantages of an app like this.
- Alternatives to this app.

Requirements: Client Side

- ① **Main Page:** Have a main page able to Sign in through a username and a password.
- ② **Registration Page:**
 - Name
 - Phone Number
 - E-mail
 - Password
- ③ **List of categories and products:** An easy to use and comfortable structure.
- ④ **Cart Page:** A page for the cart.
 - Insert Address
 - Insert Time of delivery
 - Remove items
- ⑤ **Order Status page:** A page to view order's status.

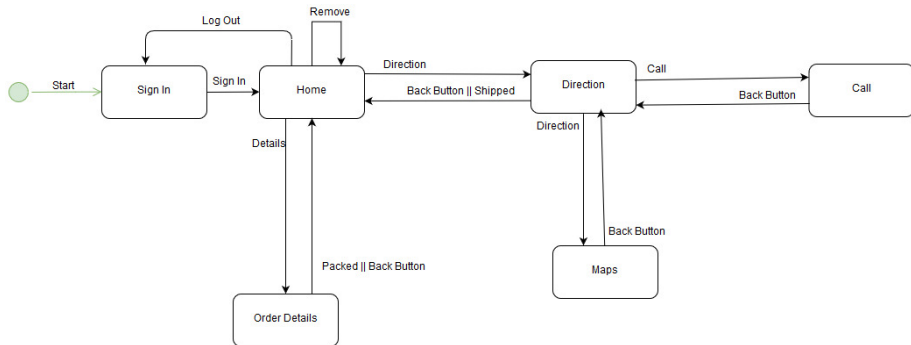
Flow Chart: Client Side



Requirements: Business Side

- ❶ **Log In Page:** Access only for the workers
- ❷ **Home page** where are listed all the orders and each of them should have:
 - Order id
 - Order status
 - Buyers phone
 - Buttons to navigate
- ❸ **Details Page:** A page for the details of the orders. Packing confirmation.
- ❹ **Directions Page:** The page must contain:
 - The location of the buyer
 - The location of the worker
 - Possibility to call the buyer

Flow Chart: Business Side



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Tools: Interface



Android Studio



Java



Material Design



Firestore




SQLite

Interface: Client Side

Welcome Page, Sign In Page, Register Page

22:33 [status icons]



Name

Stan Nightworker

Phone Number

3233233233

Email


ghtworker@email.com

Password

••••

SIGN UP

19:38 [status icons]




The gas is just one click away

SIGN UP

SIGN IN

23:54 [status icons]



Phone Number

3272028894

10 / 10

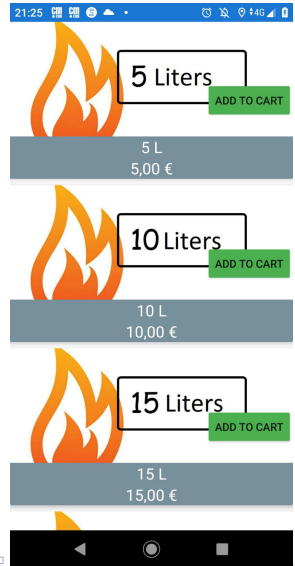
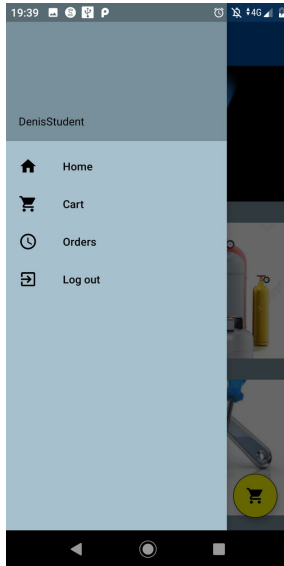
Password

••••

SIGN IN

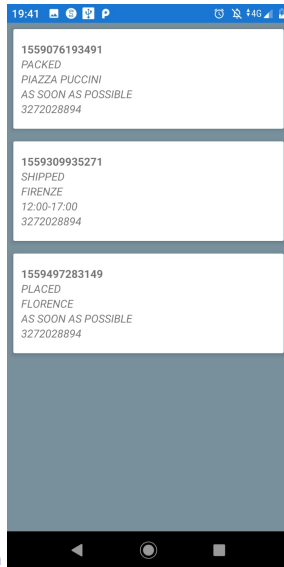
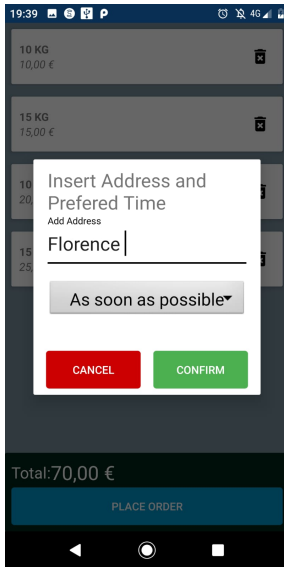
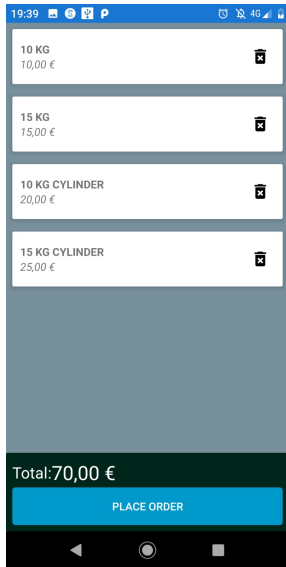
Interface: Client Side

Home Page, Navigation Draw, Product List



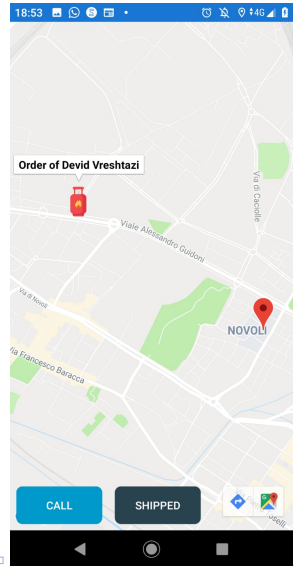
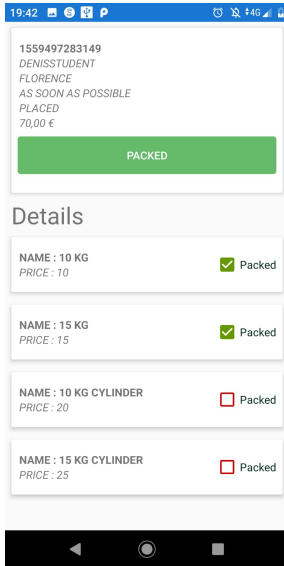
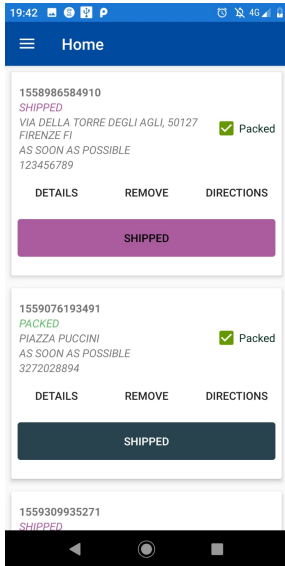
Interface: Client Side

Cart, Complete Order, Orders List



Interface: Business Side

Home Page, Details Page, Directions Page



Interface: Business Side

The different states of an order

1558986584910
PLACED
VIA DELLA TORRE DEGLI AGLI, 50127
FIRENZE FI
AS SOON AS POSSIBLE
123456789

☐ Packed

DETAILS REMOVE DIRECTIONS

SHIPPED

Figure: Placed

1559076193491
PACKED
PIAZZA PUCCINI
AS SOON AS POSSIBLE
3272028894

☒ Packed

DETAILS REMOVE DIRECTIONS

SHIPPED

Figure: Packed

1558986584910
SHIPPED
VIA DELLA TORRE DEGLI AGLI, 50127
FIRENZE FI
AS SOON AS POSSIBLE
123456789

☒ Packed

DETAILS REMOVE DIRECTIONS

SHIPPED

Figure: Shipped

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The total number of participants were 13 and were asked to execute some tasks.

- ① 10 Client users
- ② 2 delivery workers
- ③ 1 entrepreneur

From the scenarios was possible to understand:

- Intuitiveness
- Comfortable
- Easy to use

Surveys: Client Side

N	Question	Average	Standard Deviation	%Agreed
1	I find registration easy	6.5	0.8	100%
2	It was clear how to reach the desired products	6.1	0.7	100%
3	The keys are clicked correctly	6.5	0.67	100%
4	The navigability of the app is clear	6.3	0.78	100%
5	I found it difficult to enter the Delivery Address	1.1	0.3	0%
6	I found it difficult to enter the Preferred Time of Delivery	1.6	0.8	0%
7	It is easy to edit the order before the confirmation	6.7	0.46	90%
8	The sequence in which an order is completed is clear	6.3	0.78	100%
9	The images reflect the content of the products	6	0.63	100%
10	The service provided is satisfactory	6	1.34	80%
11	Would you recommend the application to others	6.5	0.67	100%

Table 2: Result of Usability Tests. Clients Part. The answers are ranked from 1 to 7. % Agreed : % of evaluation more than 4

Surveys: Business Side

N	Question	Average	Standard Deviation	%Agreed
1	The app correctly detects my position on the map	7	0	100%
2	I find understandable the display of orders lists	6.7	0.47	100%
3	I find the product packaging phase simple	6.7	0.47	100%
4	I find satisfactory the colors used to identify the status of the order	6	0	100%
5	I found it difficult to locate the buyer	2	0.81	0%
6	The navigability of the app is not clear	1.3	0.47	0%
7	I find clear the sequence in which an order is completed	6.3	0.47	100%
8	I find the use of the app complex without an adequate training	1.3	0.47	0
9	Using the app can help me do my job more efficiently	6.7	0.47	100%
10	I would be happy to use the app in my daily work	6	0.81	100%

Table 3: Result of Usability Tests. Business Part. The answers are ranked from 1 to 7. % Agreed : % of evaluation more than 4

Proposals for improvement

Client Side

- Add discounts to the customers for first registration or after they acquired a number of products.
- The products can be grouped in other categories like: Camping, Family and Business.
- To add a counting button in the cart page for products.
- To add even a date not only the preferred time of delivery and also a comment box for the deliveryman.
- A fixed address
- Live tracking Order

Proposals for improvement

Business Side

- To group the orders by delivery preferred time and date.
- To identify the worker who completed a task.
- Integrated google navigator on the map.

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Conclusions

In conclusion the app makes it possible to place the order of the gas or products related to it in an innovative way. This first iteration of the process, even if conducted on a small sample of potential customers, brought interesting results about the application usability. Overall the users who made the tests were optimistic about the idea, even though there is much space for improvement.