



# Palestine Technical University (PTUK)

## Faculty of Engineering and Technology

Department of Computer Systems Engineer



**DON'T WASTE, DONATE**

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## DEDICATION

**This Project dedicate to all the people who have worked hard to help us complete this project.**

## ACKNOWLEDGEMENT

First and foremost, praises and thanks to the God, for blessings throughout our research work to complete the research successfully.

I would like to express my deep and sincere gratitude to my research supervisor, Dr. Mahmoud Moshref for giving us the opportunity to do research and providing invaluable guidance throughout this research.

I am extremely grateful to my parents for their love, caring and sacrifices for educating and preparing me for my future.

Finally, my thanks go to all the people who have supported me to complete the research work directly or indirectly.

## ABSTRACT

Are you looking for a Reducing wastage management system project? We are here to help you. You can contact us. Everyone uses a lot of products and most of them left waste or unused. We all waste items for various reasons.

To solve this problem, we come up with a system which can take request from the users who dissatisfied with the waste products, they can request to our system and donate to a needy people. At the same time needy people also can request the system and gain their requirements.

Hence our system takes feedbacks and gives it best to settle the need and doing humanity.

## 1.1 PROBLEM STATEMENT

Since we are students, we know all the problems that any student can face, one of many is finding previous scientific materials, and anything they need in their courses like (Engineering tools, lab coats.....etc.), so we tried to put together something that makes it easier to find the needs of students with less time, effort and money.

What is better than using the Internet, A website for all the students to show their needs and find them easily, then we decided to create this website for all people and not just students, so we changed the idea of the website to include all needs and all users who have things they used once and want to benefit others.

The idea of the site came from our real life, as many people take time and effort to get their requirements that they want and often can't find, thus they have wasted their time, effort and money

From here we decided to make the project on a larger scale to include all people (needy and donors).

## 1.2 PROJECT OBJECTIVES

- To assist in collecting the leftover food from hotels & restaurants to distribute among those in need.
- To help clothes shops to reduce Unsold or unused clothes and will help the poor and needy people.
- To help university students to reuse previous scientific materials.
- To reduce costs needed to buy the medical equipment for personal use at home.
- To enable the exchange of books and novels between lovers of reading.
- To reuse items and save them from landfill, recycling items give them a second life.

## 1.3 THE TARGET GROUPS

- Needy and poor people.
- Restaurants and hotels.
- University students.
- reading lovers.
- clothes shops.
- Patients who need medical equipment at home.
- And everyone who wants to donate and help.

## Chapter 2: PRELIMINARY LITERATURE REVIEW

At first, we have ideas, but we don't have an image about people's needs and what things they no longer use.

To draw a clear picture of how to make the site ease to use, with respect users' privacy not showing their personal data without embarrassment, so we went back to the Internet to find sites with similar idea, we find many sites, for example:

<https://www.donatedav.org/>

<https://www.thespruce.com/where-to-donate-everything-in-home-2648117>

And we went back to previous software projects to know the correct way to write the documentation, and we consulted our lecturer Dr. Mahmoud Moshref to know the essential parts must include in our project and he gave us some advices.

We have an idea about some of the needs that we can include, but we didn't have a complete picture about all needs. Therefore, we created a form for two purposes: finding out the most important things that people no longer use in addition to find out if there are others needs that can be added.



### 3.1 METHODOLOGY:

Software model used: **Reuse Model & Incremental Model.**

#### Why Reuse?

With the development of the software field, the availability of reusable software has increased, so we have found many projects similar to our general idea which is open source movement that means there is a vast reusable code base and software libraries available at low cost.

#### Advantages:

- The reuse-oriented model can reduce overall cost of software development compared with more tedious manual methods.
- It can save time and effort because it is based on a previous project which has already been refined.
- It can minimize the likelihood of errors or bugs making their way into the final product.

#### Why Incremental?

You can see that at each stage of incremental development we are going through analysis, design code and test phase and by doing this we are making sure that the various incremental stages are compatible.

#### Advantages:

- Since there is testing at each incremental phase there will be multiple testing and more testing means better result and fewer defects.
- The user or the customer can provide feedback on each stage so work effort will be valued and sudden changes can be prevented.
- Errors are easy to be recognized and debug.

## 3.2 REQUIREMENTS

By utilization the software engineering to highlight the problem of the waste unused things.

The system will be designed with interactive interfaces design which helps the users to access all desired items at a high speed, little effort, saving their money regardless of their ages and knowledge, just a few clicks.

The system handles all aspects of unused or needed things, where it is allowed the users to add, delete or modify their unused things in addition to rent from available items on the site. All previous activities are being monitored by the website admins.

### 3.2.1 Functional Requirement

- User requirement

The system comprises of three major modules:

1. Support user registration service
2. Object section
3. support delivery service

- System requirement

1.1	The possibility of registering for two users
1.2	Show the site's logo and name and under it two icons: one to log into your account and the other to create an account, click on one of them and move to the required interface.
1.3	When presses on the <b><u>sign-up</u></b> button, the account creation interface appears includes text boxes for the user information, which are: user name, password, phone number and address, then a message appears "if you are technical support, Enter your code" with optional text box. Then press on create account button.

1.4	To log into your account presses on <b>login</b> button, then two icons appear: technical support and user. if click on the technical support button, login interface appears with two text boxes to enter the user name and password, else if click on the user button login, interface appear with two text boxes to enter the user name and password then click on log in button. then two icons appear: one for donate and the other for borrow.
1.5	The possibility of entering the user's information in the registration, such as the first name, last name, the person's address, phone number, and then the "Save" button
1.6	The colors on the site are green and white, and the site logo and name remain fixed at the top left of the screen
1.7	There is an undo button in case the user wants to undo the registration, and a button to close the application

2.1	Our site supports several sections
2.2	If the user chooses the borrow button, he moves to an interface that contains all items (Food, Medical equipment for personal use, college supplies, Novels and books and clothes....etc.) then choose the product wants by clicking on it, after that transfers to interface contains items and when you select an item an interface is appear which contains information about item and the number of available pieces, then select the piece he wants after that a message "Are you sure?" appears in order to confirm your order finally the select item added to your cart.
2.3	If the user chooses the donate button, he moves to an interface that contains form to add item then fill it with all information about this item(if item is food the user must enter the expired date in order to get it rid of by send notification to support technical ) after that click on add button after that a message "Are you sure?" appears in order to confirm it. if type of item is existing then add the item to this list else the system automatically creates a new list for this type then add it.

2.4	Technical support tasks: <ul style="list-style-type: none"> <li>• Edit or update the details of any section.</li> <li>• Detect and correct any sudden failure of system.</li> <li>• Generate reports for weekly or monthly donation.</li> </ul>
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3.1	When user order service, whether donate or borrow, the user has two options: either go to the service center or delivers it through the delivery company
3.2	The delivery company obtains the user's information (address and phone number) from the database that was pre-filled when creating accounts
3.3	The company provides the user with dates of receipt and delivery
3.4	Two payment options appear either by payment on receipt or credit card.

## 3.2.2 Non-Functional Requirement

### 1. Security:

- 1.1 The system shall provide a high level of security and integrity of the data, just users with valid password and username can login to view and make changes in their accounts.
- 1.2 Passwords should be encrypted and must be at least 7 characters, and must include at least: 1 lowercase letter, 1 uppercase letter, numbers and one of the following characters (#, \$, \*, !).
- 1.3 The system will protect personal information of the lender and borrower (not visible to other users).
- 1.4 Also the Technical support cannot complete the registration without entering the code that the system sends via email.

### 2. Performance and Response time:

The system shall give you response and result to your request with less than one second.

### **3. Availability:**

Degree to which a system component is accessible when required for use.

### **4. Usability Requirement:**

- 4.1 The system should be easy-to-use by users and should be organized in such a way that user errors are minimized.
- 4.2 User shall be able to use all the system functions without previous training and can easily determine what a feature is and what it can do.
- 4.3 The system should provide many primary languages.

### **5. Portability:**

The software should be portable. So, moving from one OS to other OS does not create any problem.

### **6. Compatibility:**

- 6.1 Highly compatible systems typically function well when other applications are running on a device.
- 6.2 Compatibility also allows people who have different operating systems to use the same applications with same features.

Chapter 4: DIAGRAMS

4.1 Use Case diagrams:

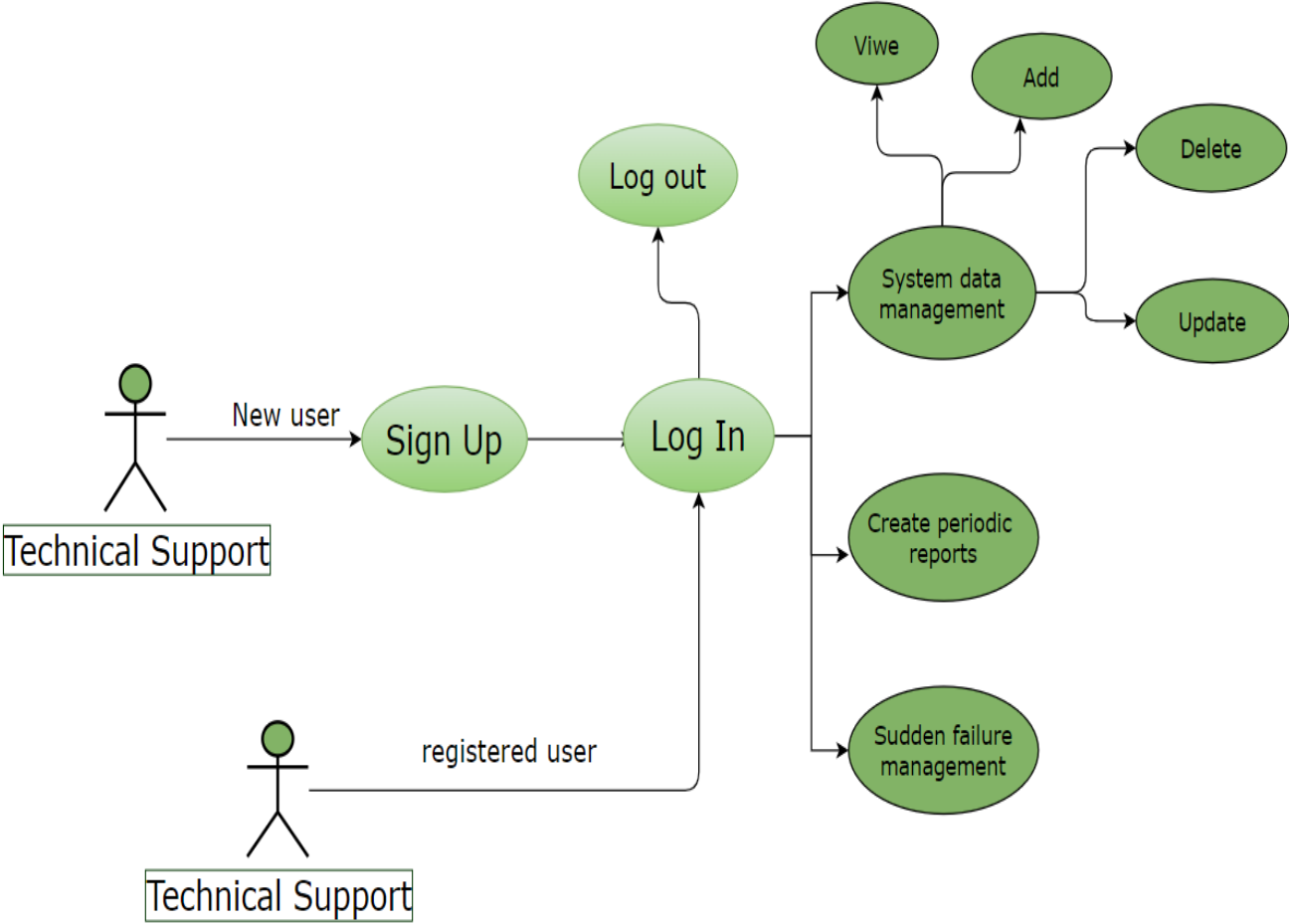


Figure 4.1.1: Technical support Use-case Diagram

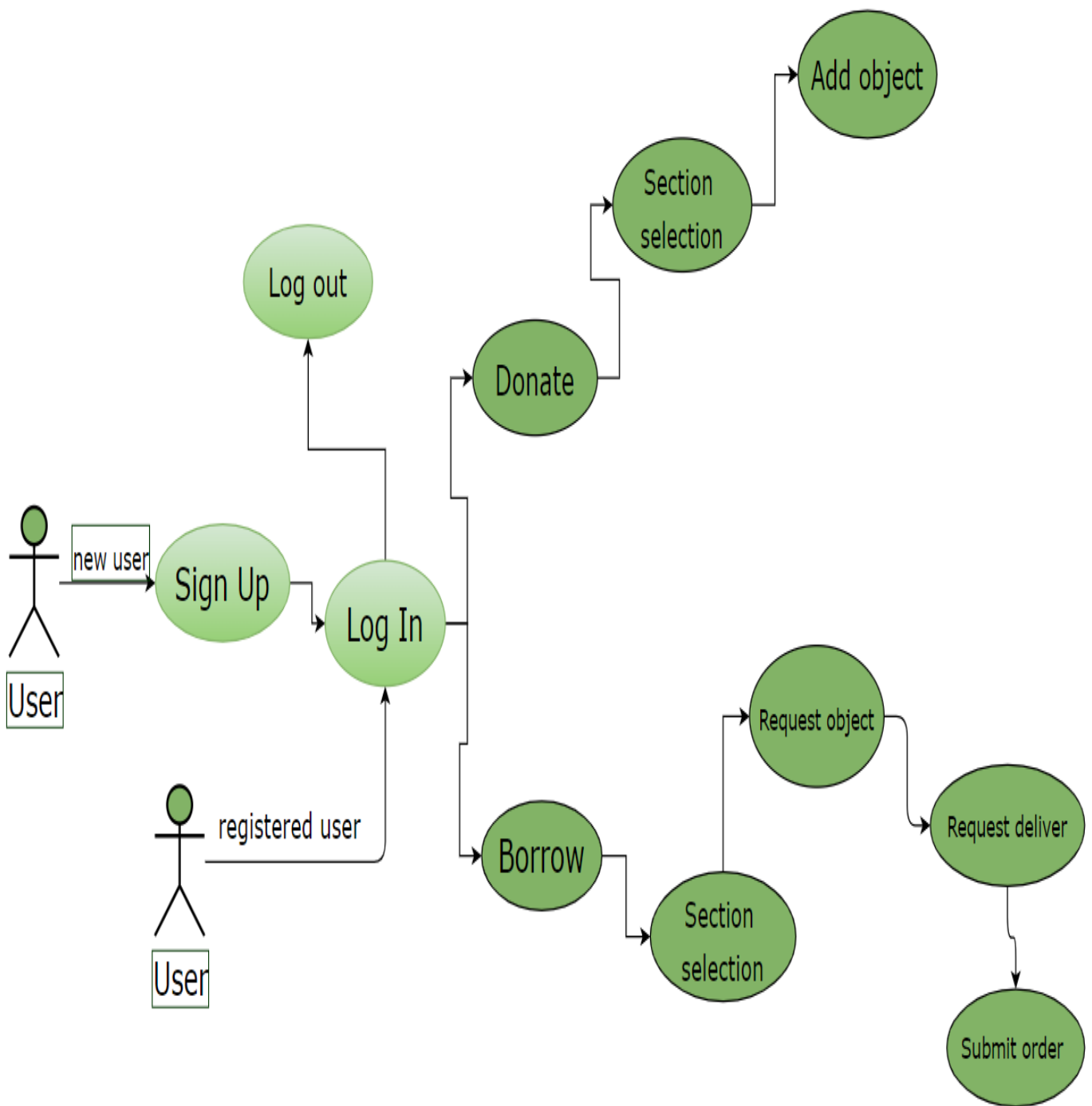


Figure 4.1.2: User Use-case Diagram

## 4.2 Sequence diagrams:

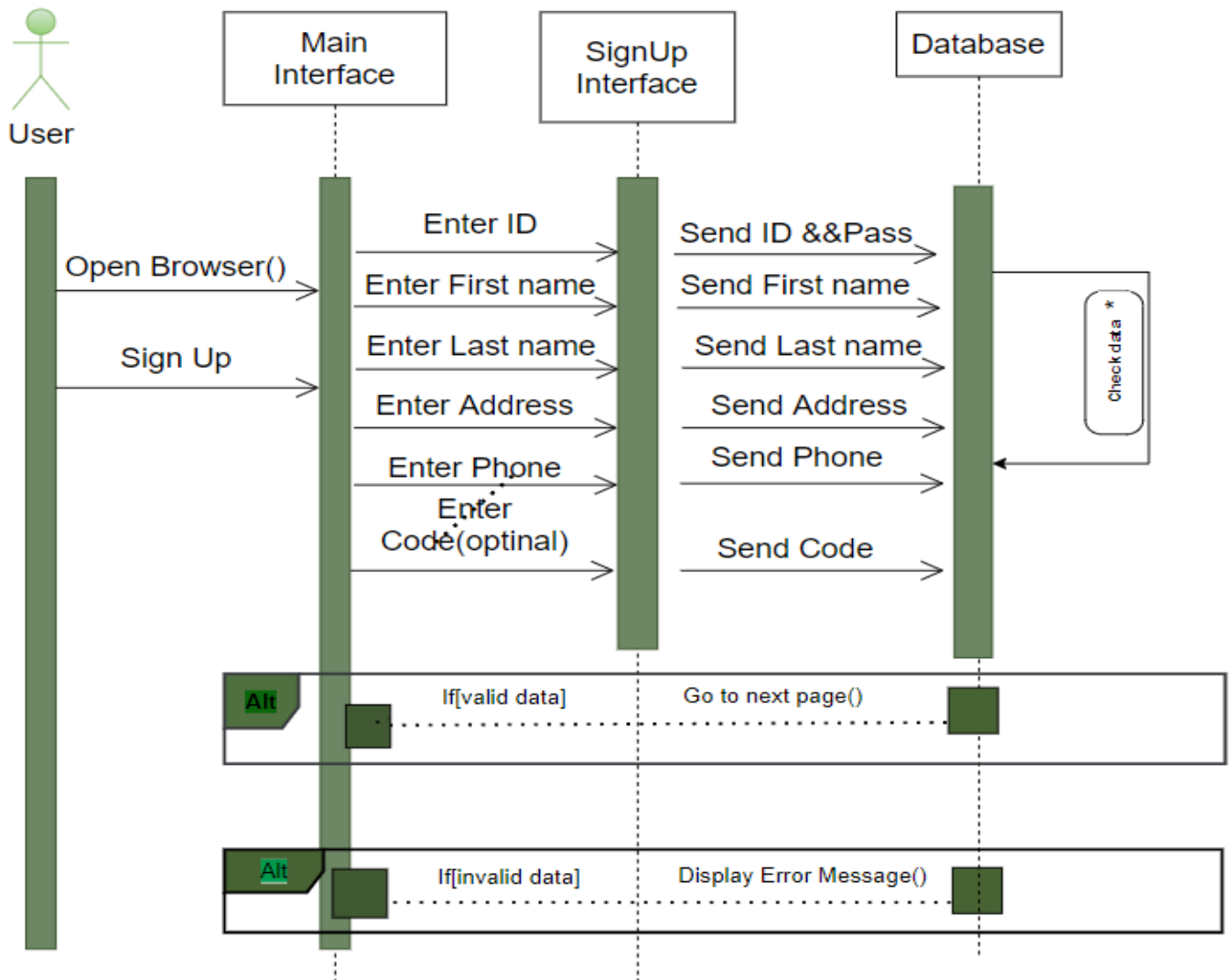


Figure 4.2.1: Sign-Up Sequence Diagram



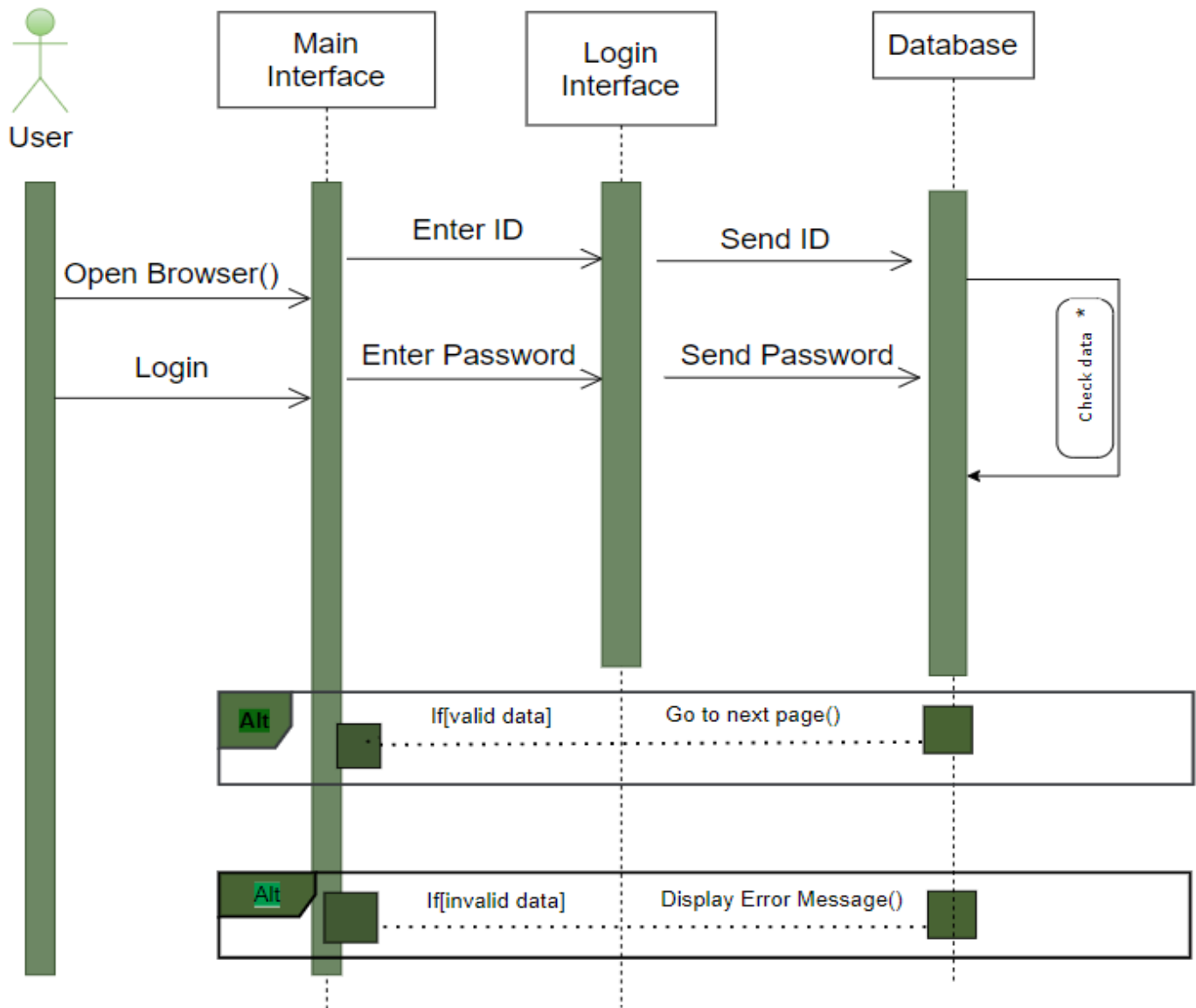


Figure 4.2.2: Log in Sequence Diagram

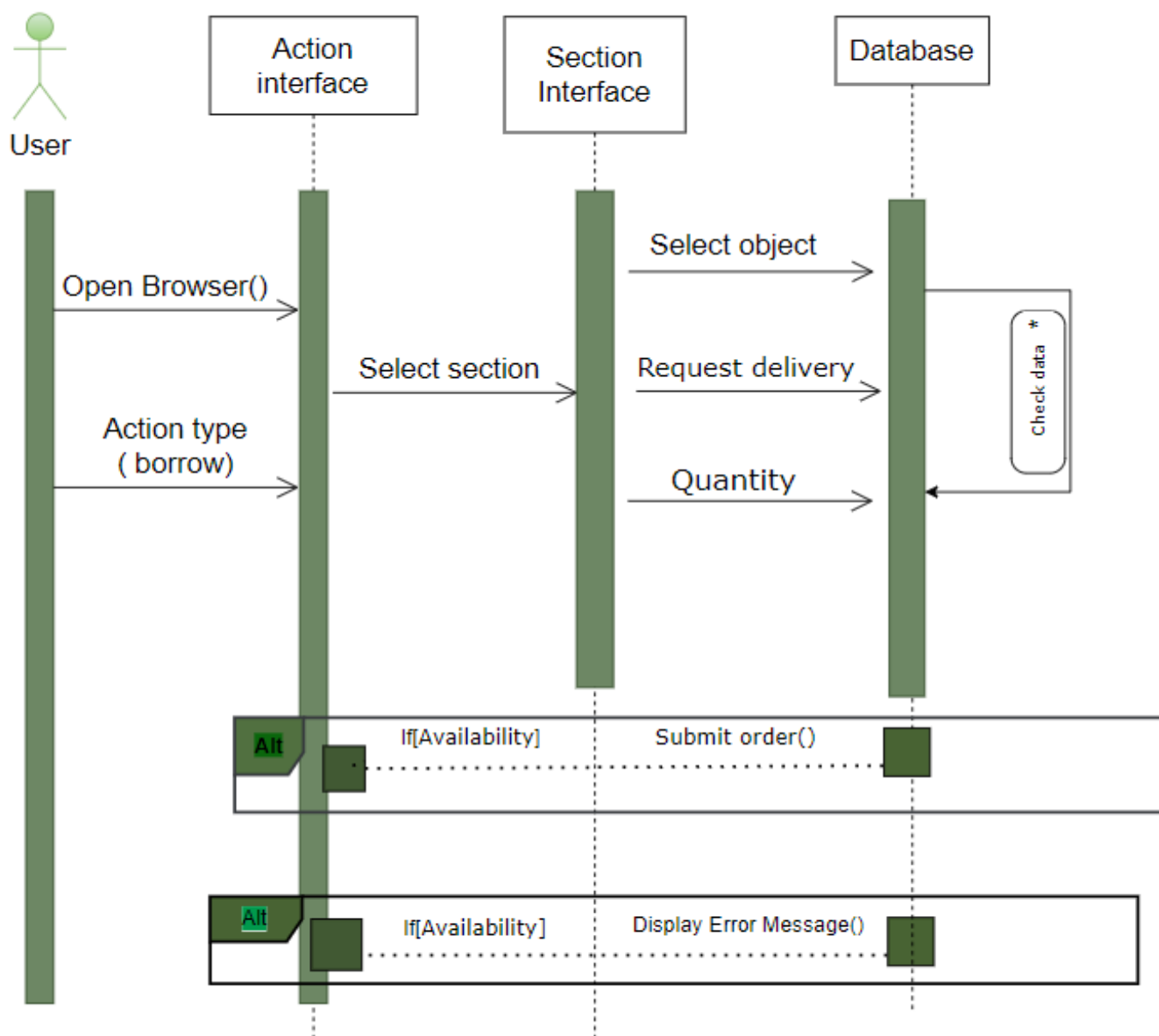


Figure 4.2.3: Borrow Sequence Diagram

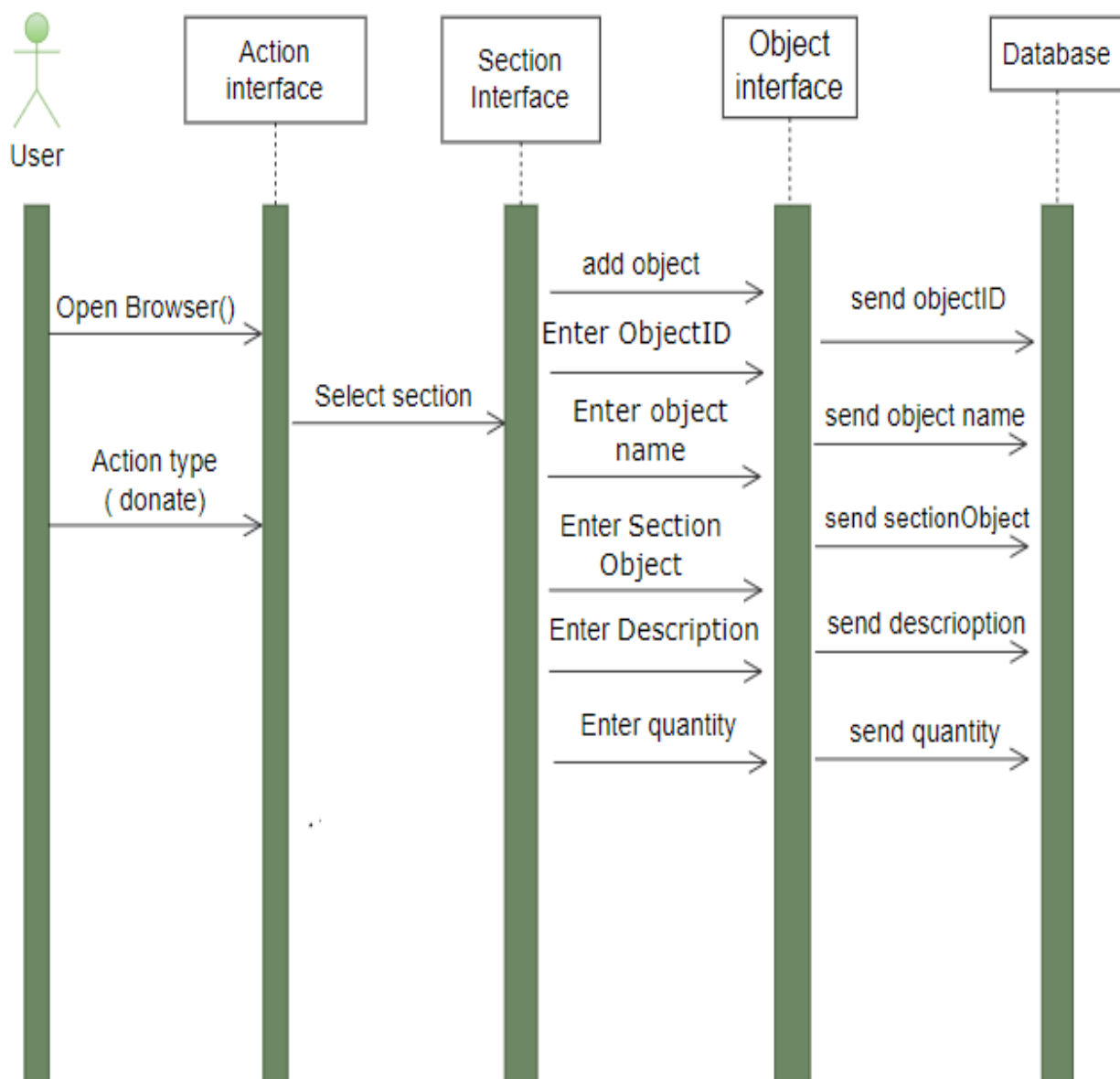


Figure 4.2.4: Donate Sequence Diagram

## 4.3 Class diagram:

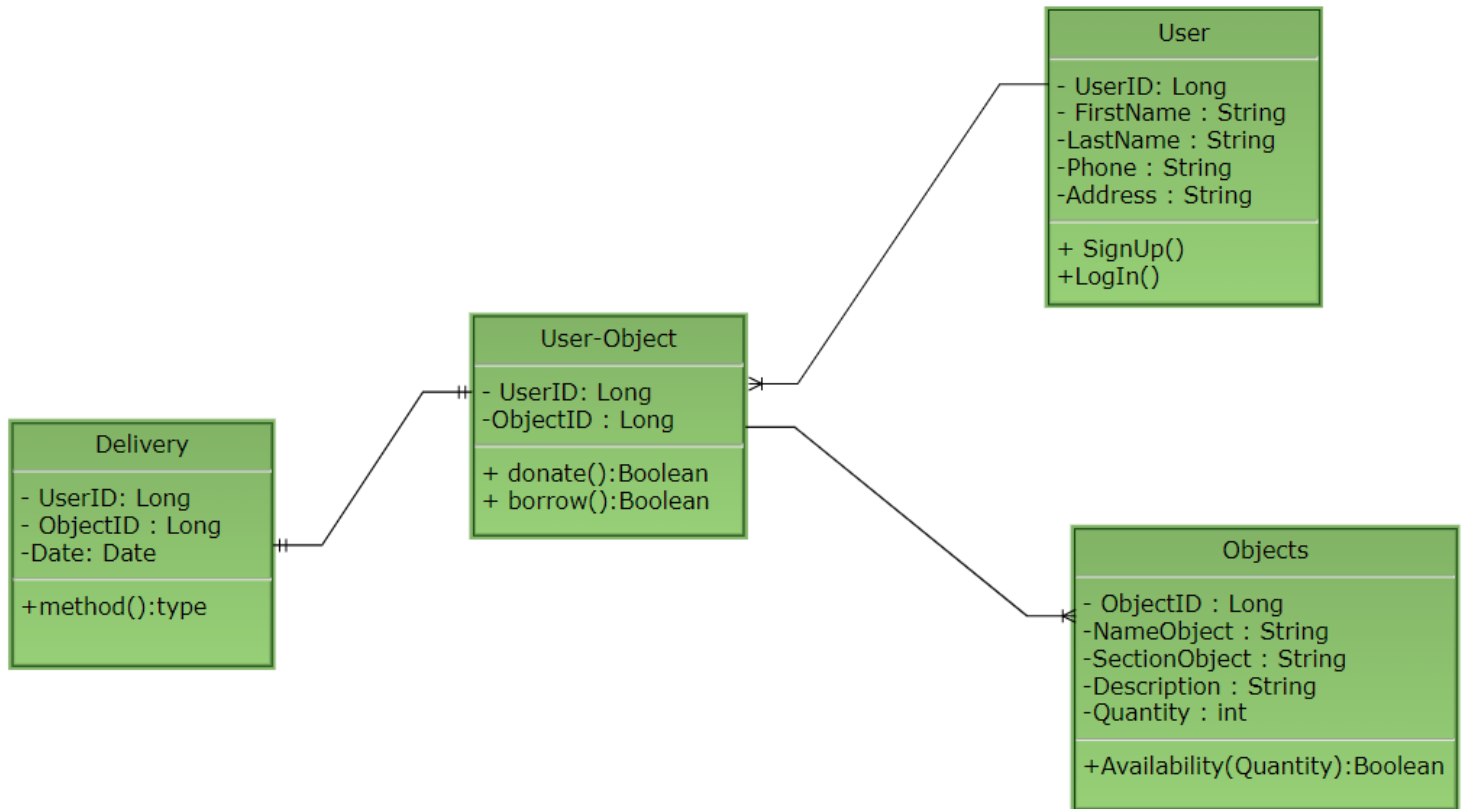


Figure 4.3: Class Diagram

### 5.1 CHALLENGES

#### 1. Globalization causing extremely high competition:

If your business is in the software has a great idea, another software company may have ready thought of it, there may be no away to determine how close another company is to developing it.

#### 2. Quality testing and bug fixes requiring numerous software iterations:

various iterations of testing occur throughout the project cycle to ensure the actual outcome meets the intended outcome. It is common to discover issues/bugs throughout the testing phases that require fixing and retesting until the issues are resolved. The testing phase is critical in ensuring no additional rework is required after going live, and to avoid customer dissatisfaction.

#### 3. Time to market our site is a stressful reality in the software.

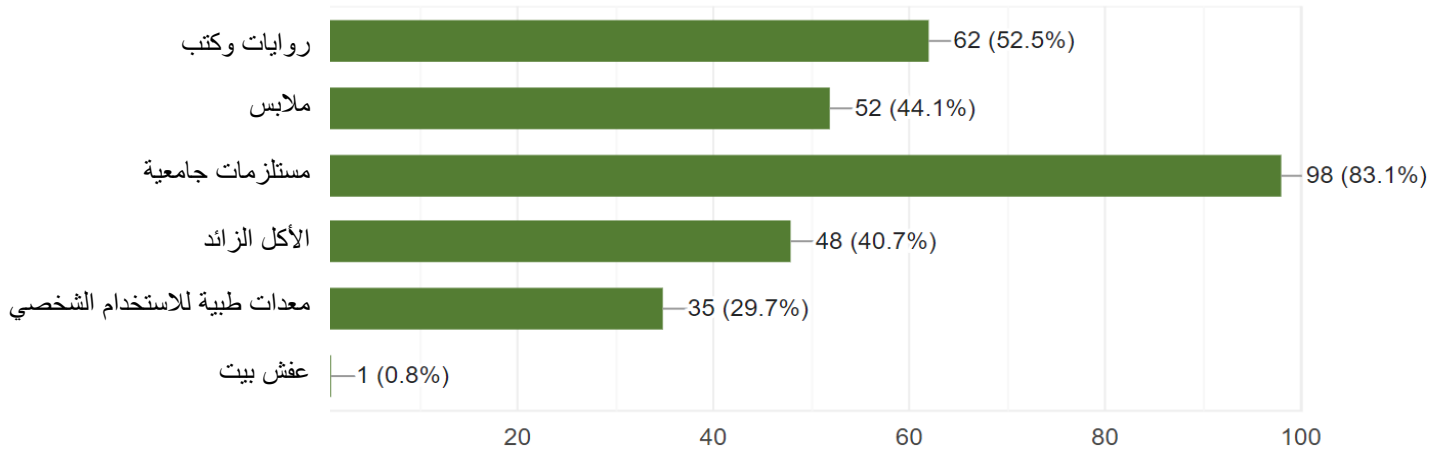
### 5.2 TEAM MEMBER WORK

We worked with each other in parallel and everyone participated in all project departments through zoom meetings and face-to-face meetings at the university

## 5.3 THE QUESTIONNAIRE RESULTS

we created a form for two purposes: finding out the most important things that people no longer use in addition to find out if there are others needs that can be added.

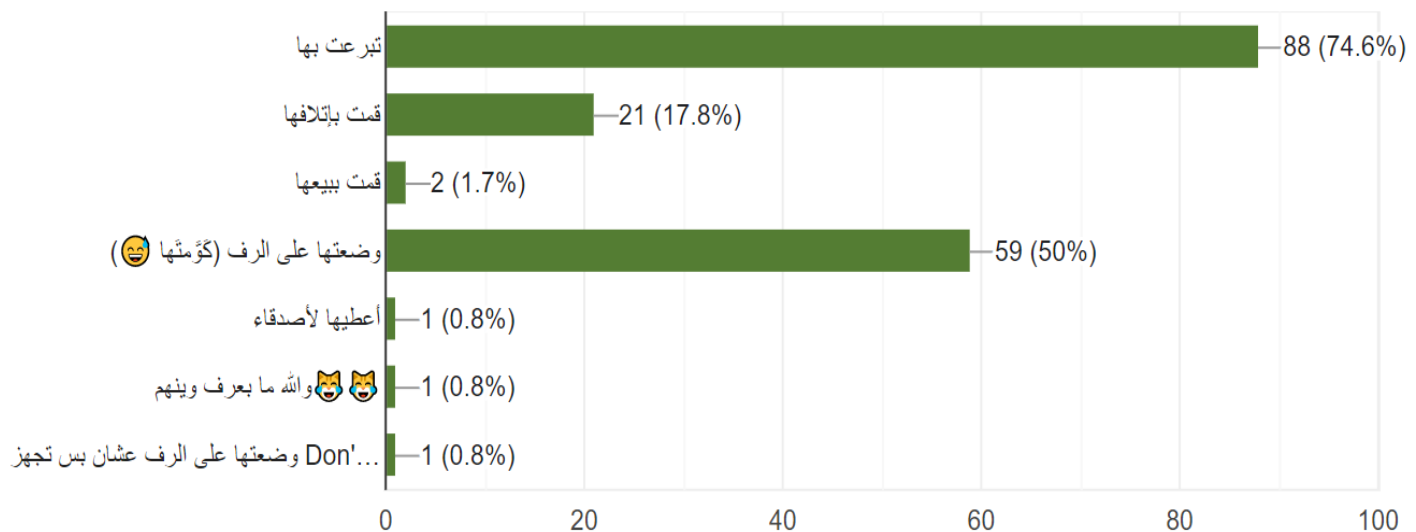
ما الأشياء التي تحتاجها لمرة واحدة ويمكن للآخرين الاستفادة منها (يمكن اختيار أكثر من إجابة)



نسخ

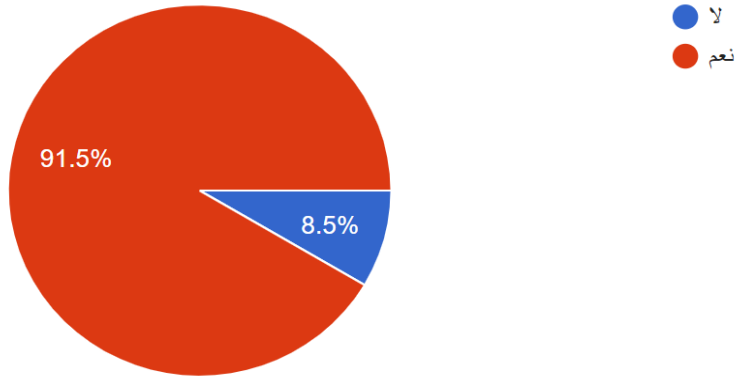
ماذا فعلت بها ؟ (يمكن اختيار أكثر من إجابة)

118 ردًا



هل سبق واستعرت أو أعرت الآخرين ؟

118 ردًا



الأشياء التي تفضل استعارتها على شرائها

79 ردًا

الكتب والروايات
المستلزمات الجامعية
كتب الجامعة
ملابس الحفلات التي لا يمكن الاستفادة منها بعد ذلك
اغراض الاستخدام لفترة قصيرة ( فصل دراسي ) مثل الادوات الهندسية ، كتب المواد .
اي اشي يستخدمه بحب يفضل عندي ، حتى لو مش حستفيد منه
كتب الجامعة والملخصات
كتب ثم كتب
الروايات، الكتب، أي اشي متعلق بالتعليم

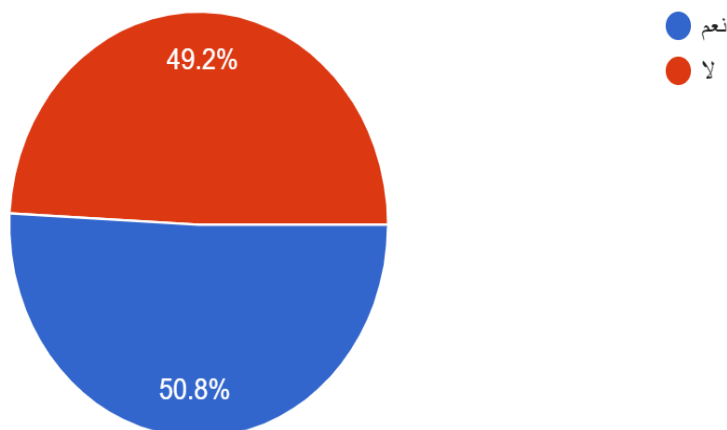
الأشياء التي تفضل استعارتها على شرائها

79 ردًا

الكتب و المعدات الزراعية.	الكتب والروايات، الأشياء الغالية التي رح استخدمها بس مرة وحدة مرات الملابس والاكسسوارات
الكتب الدراسية	المعدات الصناعية
الادوات الهندسية.. الكتب والدوسيات	الادوات الدراسية
مستلزمات جامعية	كالادوات الهندسية و الرويات و الكتب .
مواد الجامعه .الكتب ..	مستلزمات و معدات العمل مثل المفكات و الشواكيش
احب ان اعطي لا آخذ او استعير ولكن غالبا ما استعير الكتب	شئنة الهندسة وبعض الكتب
ادوات طبيه	كتب الجامعة والدوسيات والتلاخيص
مستلزمات جامعية (ادوات هندسية , تلاخيص أو كتب , لاب كوت	الأشياء الشخصية.
الأشياء الثمينة مثل المستلزمات الطبية	معدات الصناعية

هل تعاني من كثرة الأشياء التي لم تعد بحاجة لها ؟

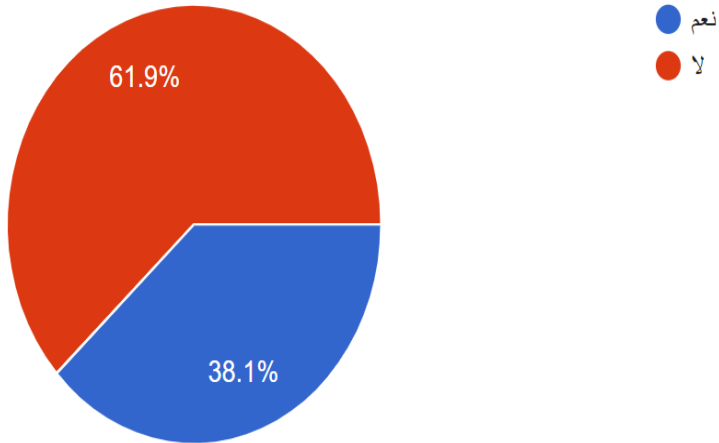
118 ردًا





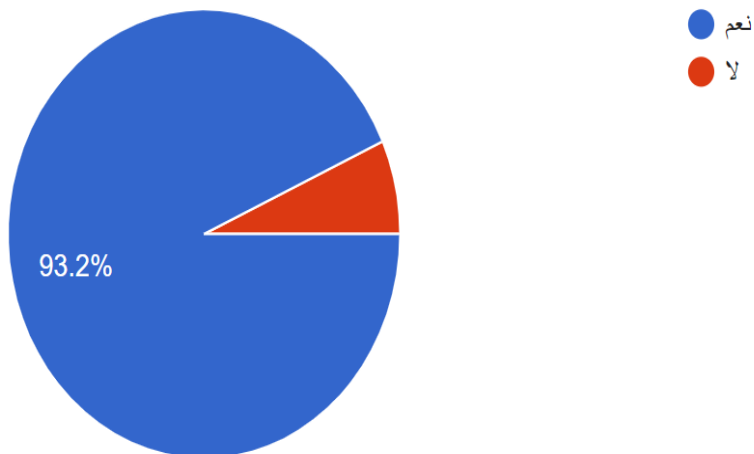
هل سبق وتعاملت مع مؤسسات أو جهات للتبرع بهذه الأشياء؟

ردًا 118



هل تشجع وجود موقع يساعدك على التصرف بها

ردًا 118



أمور ترغب بإضافتها ( اقترحك, رأيك , ..... )

36 ردًا

يعطيكم العافيه

تسهيل تبادل الكتب ،الروايات، القصص

لا شيء

كثير في ناس بتكون محتاجة لاشياء بسيطة فكثير منيح يكون موقع يساعد على العثور عليهم مجانا

نقتصر بالكثير من الاشياء ولا نهدر ولا نصرف في كل وقت ، احيانا يلزمنا ان نكون حريصين على المحافظة على الاشياء و احيانا لا، فنكون بعون الله من الذين يجدون مصرفا لكل شيء بطاعة الله لا برغبة وطاعة كلام أحدهم . و جزاكم الله خيرا.

—

الحسن التصرف بالاشياء القديمه

أمور ترغب بإضافتها ( اقترحك, رأيك , ..... )

36 ردًا

عمل مؤسسة او مشروع يعمل على جمع الاشياء الزائدة عن حاجة الشخص واعطائها للاشخاص المحتاجين لها عن طريق يريد يكتب بها الاشياء الزائدة عن حاجته

وايضا الشخص المحتاج يكتب ما يحتاج اليه مع احترام خصوصيته وهكذا يتم مساعدته بالخصوصية التامة

ايش يا عمالقة الحاسوب ❤️❤️ زينة

.

إعادة تدوير

موقع يساعد على الاستعارة والتبادل

وجود فعاليات ومعارض تعنى بتبرع الناس بأشياءهم اللائي لم يعودوا بحاجة إليها، وقد يحتاجها آخرون.

## Chapter 6: REVERENCES

What is Sequence Diagram?

<https://www.visual-paradigm.com/guide/uml-unified-modeling-language/what-is-sequence-diagram/>

- models:

incremental model:

<http://tryqa.com/what-is-incremental-model-advantages-disadvantages-and-when-to-use-it/>

reuse model:

<https://softwarekno.blogspot.com/2016/09/reuse-oriented-software-engineering.html?m=1>

- templet with similar objective:

<https://www.donatedav.org/>

<https://www.thespruce.com/where-to-donate-everything-in-home-2648117>

- book: SOFTWARE ENGINEERING Ninth Edition, Ian Sommerville.

- Draw io Tools for Drawing UML Diagrams. Drawing