

An-Najah National University



Faculty of Engineering and Information Technology

Computer Engineering Department

Software Graduation Project

Nabataty

By:

Aya Daraghma

Sahar Abdelhaq

Supervisor:

Dr. Alaadin Masri

Submitted in partial fulfillment of the requirements for a bachelor's degree in
Computer Engineering.

January 2023

ACKNOWLEDGEMENT

In the culmination of our academic journey, we find ourselves profoundly indebted to those who have been instrumental in our success. We extend our heartfelt appreciation to our esteemed supervisor, Dr. Alaa' Aldeen Masri, whose unwavering commitment, time, and guidance have significantly enriched our project's development. His sage advice has been a beacon of insight throughout this endeavor.

Furthermore, we are immensely grateful to our families, friends, and all those who have stood by us with unyielding support and encouragement. Their belief in our potential has been an invaluable source of motivation. This journey of growth and learning has been made all the more fulfilling by their presence in our lives.

DISCLAIMER

This application was accomplished by Aya Daraghma and Sahar Abdalhaq from the Computer Engineering Department at An-Najah National University for educational purposes only, and the Department of computer engineering at An-Najah National University does not share the writers' opinions, which are their own. The content, features, and functionality presented in this application are based on our skills and knowledge at the time of completion.

Contents

ACKNOWLEDGEMENT	2
DISCLAIMER	3
ABSTRACT	9
INTRODUCTION	10
LITERATURE REVIEW	12
1. E-commerce in the Plant Industry:.....	12
2. User Experience in Plant Purchases	12
3. Plant Care Guidance and Educational Platforms.....	12
4. Community Building in Online Platforms	12
5. Sustainability in Plant Ownership	12
6. Psychological Benefits of Plant Ownership	12
CONSTRAINTS, STANDARDS, AND EARLIER COURSEWORK	14
METHODOLOGY	14
Create gift:	18
Plant identifier:	22
Search filter:	28
Buy new product:.....	30
Admin pages:	36
Web pages:.....	38
Admin page:.....	44
CONCLUSION AND RECOMMENDATION	47
REFERENCES	49

List of figures

<u>Figure 2: first screen</u>	16
<u>Figure 3: Login page</u>	17
<u>Figure 4: signup page</u>	17
<u>Figure 5: Create a gift by yourself</u>	18
<u>Figure 6: First choose the plant</u>	18
<u>Figure 7: choose pot</u>	19
<u>Figure 8: Chose a love card</u>	19
<u>Figure 9: Choosing decorative stones</u>	20
<u>Figure 10: Add order to the cart</u>	20
<u>Figure 11: Shopping cart in the gift design</u>	21
<u>Figure 12: Detect plant AI</u>	22
<u>Figure 14: Show the possibilities of plant disease</u>	23
<u>Figure 15: Continue the page for other expected diseases</u>	23
<u>Figure 16: Information about the disease</u>	24
<u>Figure 17: Know the name of the plant</u>	24
<u>Figure 18: Choose the matching name</u>	25
<u>Figure 19: The name of the plant and its healthy appearance</u>	25
<u>Figure 20: Take a photo directly from your mobile phone</u>	26
<u>Figure 21: Take a picture of the plant</u>	26
<u>Figure 22: The disease that affected the plant</u>	27
<u>Figure 23: Plant name</u>	27
<u>Figure 24: Search filter</u>	28
<u>Figure 25: Search by name</u>	28
<u>Figure 26: category and price search</u>	29
<u>Figure 27: Result of search</u>	29
<u>Figure 28: indoor plants page</u>	30
<u>Figure 29: Buy a plant</u>	30
<u>Figure 30: shopping cart</u>	31
<u>Figure 31: products shopping cart page</u>	31
<u>Figure 32: Creating gift shopping cart page</u>	32
<u>Figure 34: Payment Done</u>	33
<u>Figure 36: The order page in admin</u>	34
<u>Figure 37: Show details for each order</u>	34
<u>Figure 38: User page information for confirm order</u>	35
<u>Figure 39: the client must add all information</u>	35
<u>Figure 40: Chatting with Admin</u>	36

Figure 41: Orders management 36

Figure 42: Oeder Information..... 37

Figure 43: Home (First) page 38

Figure 46: Create Gift part 41

Figure 47:Continue Create Gift part 42

Figure 48: Login and Signup page 43

Figure 49: Product overview 43

Figure 50: Complete order & payment..... 44

Figure 51: admin page (Orders)..... 45

Figure 52: admin page (Add product)..... 45

Figure 53: User page..... 45

Abstract

In today's fast-paced world, the allure of greenery and nature remains constant, and so does the need for convenient access to plants and gardening essentials. This graduation project presents an innovative solution in the form of a mobile application and website for a plant store, designed to cater to the evolving needs of plant enthusiasts.

The platform offers a user-friendly interface, allowing customers to explore and purchase a wide variety of plants with ease. Users can filter their plant selections by choosing between indoor and outdoor plants, ensuring they find the perfect fit for their space and preferences. Moreover, the application provides a unique feature that enables users to create personalized plant gifts. This includes selecting the type of pots, packaging method, and other custom details to craft a thoughtful and aesthetically pleasing gift.

One of the standout features of our application is its plant diagnosis functionality. Users can simply photograph their plants, and the application provides real-time information about the plant's condition and recommends suitable fertilizers, promoting healthy plant care practices.

In addition to plant offerings, our store includes various agricultural tools and accessories to support customers in their gardening endeavors. To further enhance convenience, a credit payment method is integrated into the platform, ensuring a seamless and secure shopping experience.

This graduation project not only demonstrates the fusion of technology and horticulture but also addresses the growing demand for accessible and comprehensive solutions in the realm of plant care and gardening. Our mobile application and website aim to make plant shopping an enjoyable and informative experience.

INTRODUCTION

1.1. PROBLEM

Many plant and pot enthusiasts face challenges in their quest for a fulfilling greenery experience. The struggle to find top-notch plants and attractive pots, coupled with a lack of centralized guidance on plant care, often leaves customers feeling dissatisfied. It's tough to navigate the fragmented landscape of multiple vendors, and without a go-to platform for reliable information and expert advice, the whole process becomes a bit overwhelming. To enhance this experience, we need a one-stop solution – a user-friendly platform that not only offers quality plants and pots but also serves as a friendly guide on plant care, making the entire journey enjoyable and hassle-free for those who love bringing green life into their living spaces.

1.2. OBJECTIVES

This project is all about making the journey of bringing plants and pots into your life a delightful and hassle-free experience. We want to ensure that you have access to top-notch plants and beautiful pots, provide easy-to-follow guidance on plant care, and simplify the whole process of finding and purchasing your green companions. Our aim is to empower you with expert advice, offer a diverse range of options to suit your tastes, and ultimately make the entire experience from selecting your plants to their delivery a joyous one. We're not just creating a platform; we're building a community where your love for greenery is nurtured, and the benefits of plant ownership are celebrated, contributing to a more sustainable and enjoyable lifestyle.

1.3. SCOPE OF THE WORK

The significance of this project lies in its transformative impact on the plant and pot industry, aiming to elevate the entire experience for plant enthusiasts. By providing a user-centric platform that offers high-quality plants, aesthetically pleasing pots, and comprehensive guidance on plant care, the project addresses the current challenges faced by customers. The streamlined purchasing process ensures convenience, while the incorporation of expert advice empowers users to nurture their green companions successfully.

Additionally, the project features the inclusion of a detect AI feature to enhance its importance. This feature works to improve the user experience by providing artificial intelligence technology to accurately and effectively detect the needs of plants. Using machine learning algorithms, the available data on soil quality, lighting conditions, and temperature levels are analyzed to provide precise guidance on the living requirements of plants. This technological addition contributes to making the project a unique and enhanced experience for plant enthusiasts, with accurate guidance based on artificial intelligence to maximize the effectiveness of plant care.

1.4. Report organization

In Chapter 2 Constraints, Standards, and Earlier Coursework, we will talk about the limitations faced while working on this project as well as how past coursework aided in its completion.

In Chapter 3 Literature Review, we will discuss similar research and other works related to the project.

In Chapter 4 Methodology, we will discuss how the project has been built and the tools used to build the project.

In Chapter 5 Conclusion and Discussion, we will give a summary of the project and what we have learned from the process of creating it and highlight some improvements that are future work.

2 LITERATURE REVIEW

The literature review for this project involves exploring existing research and insights related to the intersection of plant ownership, e-commerce platforms for plants and pots, and the overall experience for users in this domain. While this specific project appears to blend elements of e-commerce, plant care, and community-building, the literature review could touch upon several key themes:

1. E-commerce in the Plant Industry:

- Research on the trends and challenges in the online plant market.
- Success stories and best practices for e-commerce platforms dealing with plants and related accessories.

2. User Experience in Plant Purchases:

- Studies on user preferences and expectations when buying plants online.
- Analysis of factors influencing customer satisfaction in the online plant shopping experience.

3. Plant Care Guidance and Educational Platforms:

- Literature discussing the importance of providing guidance on plant care.
- Existing platforms or studies focused on educating plant owners about the needs of different plant species.

4. Community Building in Online Platforms:

- Research on the role of community-building in e-commerce platforms.
- Examples of successful online communities centered around plants or gardening.

5. Sustainability in Plant Ownership:

- Studies on the environmental impact of online plant sales and ownership.
- Research on sustainable practices within the plant industry.

6. Psychological Benefits of Plant Ownership:

- Literature exploring the psychological benefits of owning and caring for plants.
- Studies on the impact of greenery on mental well-being.

3 Constraints, Standards, and Earlier Coursework

3.1 Constraints and Limitations:

Data and Requirements collection: In the process of gathering data and requirements for our project, we face a few challenges. One major concern is ensuring we have access to accurate and comprehensive information about different plant varieties and expert advice on plant care. Geography and climate differences also make it a bit tricky to collect precise location-specific details on soil quality and environmental conditions. Getting expert insights could be limited by the availability of such expertise and the resources we can allocate for consultations.

Detect Ai and Technical Data: Detect AI serves as a virtual plant advisor, offering personalized guidance on plant care when you upload a photo. However, its effectiveness relies on accurate image analysis and access to precise technical data about the plant's surroundings. While it provides tailored advice, especially on aspects like watering and fertilizing, its accuracy may be limited in cases of subtle or complex plant conditions. Users should be mindful that the quality of recommendations depends on the clarity of the uploaded image and the accuracy of available technical information.

3.2 Earlier course work :

We received valuable support from the Computer Engineering Department's courses, including Web, Database, Software Engineering, Object-Oriented, and Critical Thinking. These courses provided us with the necessary knowledge and skills to develop the project. Additionally, we took other courses like React and NodeJS classes to gain expertise in specific technologies needed for the project. As part of our commitment to staying updated with the latest industry practices, we actively applied our learning from these courses, especially practicing React in Asal Technology training and incorporating our knowledge into the development of our most recent project. This hands-on experience further enriched our understanding and proficiency in utilizing cutting-edge technologies in real-world applications

4 METHODOLOGY

4.1.1 TOOLS, TECHNOLOGIES, AND PROGRAMMING LANGUAGE

4.1.1. TOOLS

In order to develop of this project, a suite of sophisticated tools was employed to ensure efficiency and effectiveness in various aspects of the project.

- **Visual Studio Code:** it was used as primary Integrated Development Environment (IDE), for coding, editing, and debugging purposes. [4]
- **Android Studio:** it was utilized as an emulator to simulate and test the mobile application across a range of virtual environments. [5]
- **GitHub:** a Collaboration and version control were facilitated through GitHub, which allowed work organization with my partner and efficient tracking of code modifications. [6]
- **Firebase:** for features like real-time chatting and notifications, Firebase's 'NoSQL' real-time database was chosen for its robustness and scalability. In addition, to the validation mechanisms, the platform utilizes Firebase storage to securely store images in the cloud. This ensures efficient management and accessibility of image data across the platform.
- **Postman:** it was used for testing different APIs, to ensure the reliability of our application, and make different HTTP request and response. [7]
- **Nodemon:** it significantly enhanced the development process by automatically restarting the application upon any file modification in the directory. [8]
- **Kommunicate:** is an AI-powered chatbot platform, it was integrated to automate conversations, thereby enhancing customer experience and contributing to business growth.
- **Cloudniry:** Streamline media management and improve user experience by automatically delivering images and videos, enhanced and optimized for every user.
- **Stripe Payment:** it was used for secure and efficient payment transactions. This platform offered a comprehensive suite of development tools, including APIs, SDKs, and Sandbox testing environments, which were instrumental in integrating reliable payment solutions into the application.

4.1.2 PROGRAMMING LANGUAGE

In the implementation of both the mobile application and the website for this project, React Native was employed as the frontend framework. React Native is a cross-platform framework designed for creating high-performance mobile applications, and it does not rely on web view or device OEM widgets but uses its own rendering engine to render view components. In addition, JavaScript is the programming language used in React Native, which is widely known for its capacity to develop large web applications. Components play a pivotal role in React Native, which is categorized into two main types: functional components and class components, each serving distinct purposes.

In the backend development, Node.js played a crucial role, providing notable performance advantages with its swift interpreter in contrast to languages such as PHP. Its capability to keep server-side applications continuously active minimizes the complexities associated with initializing applications for each use. This methodology not only results in quicker response times but also enhances the overall user experience.

In addition, Express.js was used as a third party in Node.js. Express.js is a wide web framework built on the core of Node.js http module and connect components known as middlewares, which enable high flexibility. It also simplifies parsing HTTP request bodies, managing sessions, and organizing routes, preventing the need for repetitive code.

For database management in our project, we utilize MongoDB and Postman. MongoDB serves as our database system, offering a NoSQL approach that facilitates flexible and scalable data storage. The data is structured using MongoDB, providing a robust and efficient solution for handling our project's requirements. Additionally, Postman is employed for API development and testing, allowing seamless communication with the MongoDB database. This combination of MongoDB and Postman enhances the overall efficiency and adaptability of our database management system.

4.1.3 MOBILE APPLICATION

This system contains many screens all combined together in a user-friendly design that will smoothen the process for users. And we will show it together to see all features.

Figure 2: first screen

This is our first page in this application (Home page)

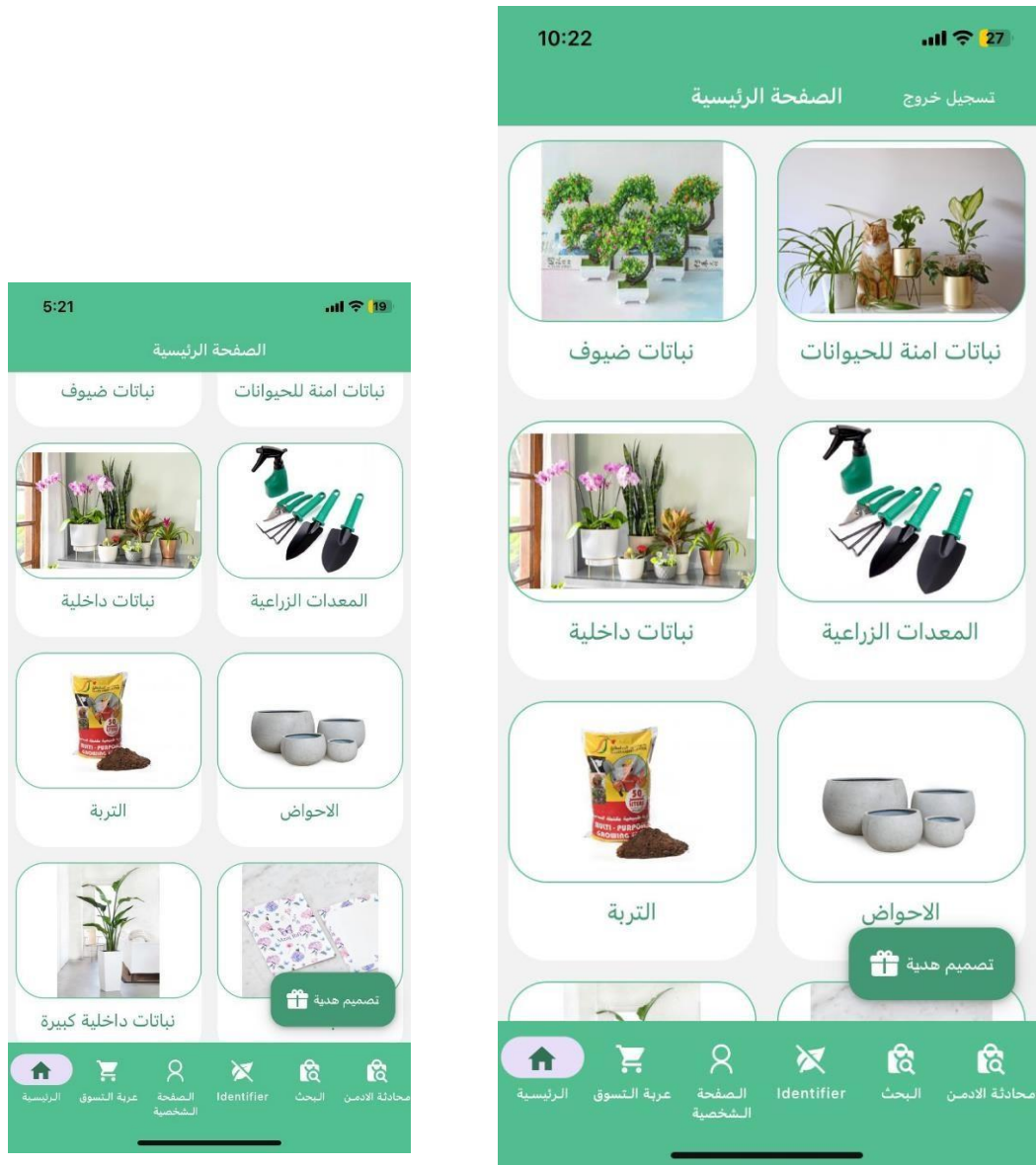




Figure 3: Login page

Here's the login page, add email and password.



Figure 4: signup page

Here's the signup page, add the basic information.

Create gift:

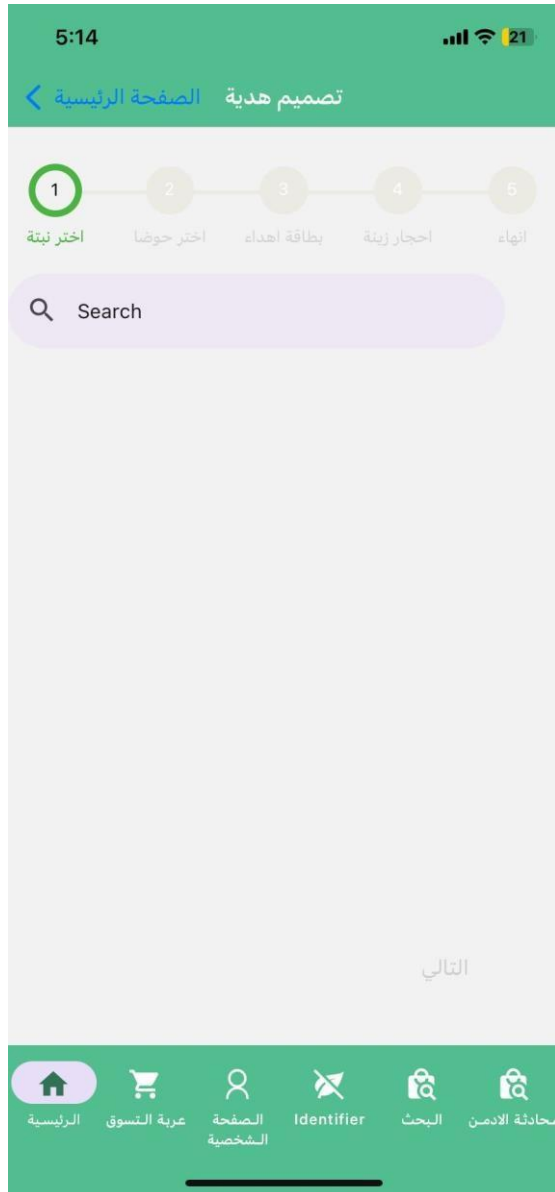


Figure 5: Create a gift by yourself

Here's The page is for creating a gift and chosen by you. You can select the pot, the plant, and the decorations, and finally, add a love card



Figure 6: First choose the plant.

Here begins the selection of the plant I searched for through the search by name, and we will discuss the search process in detail later.

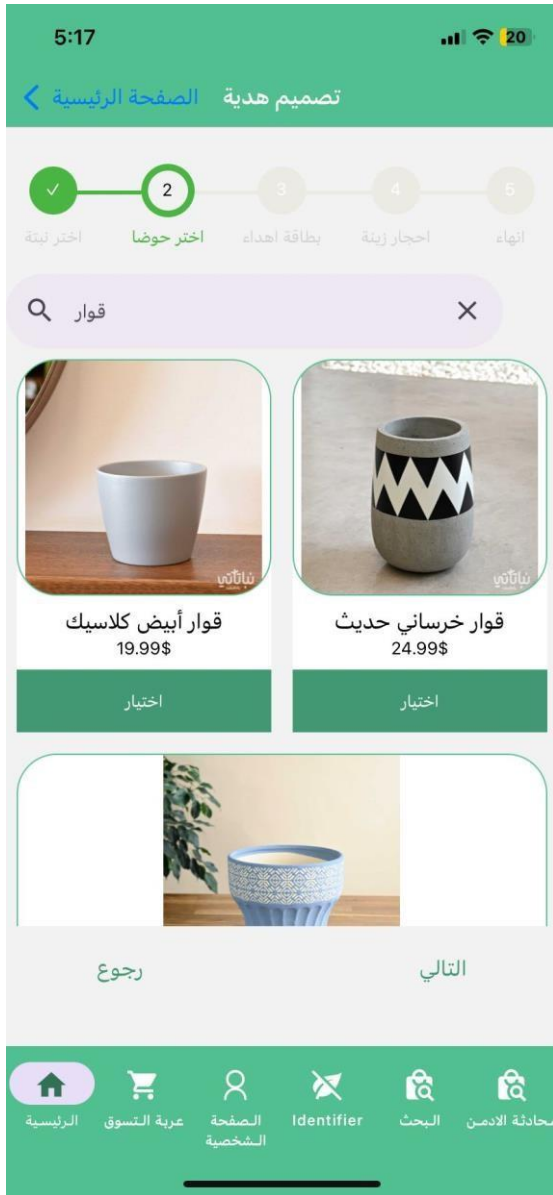


Figure 7: choose pot

Choosing the pot where they want to place the selected plant.

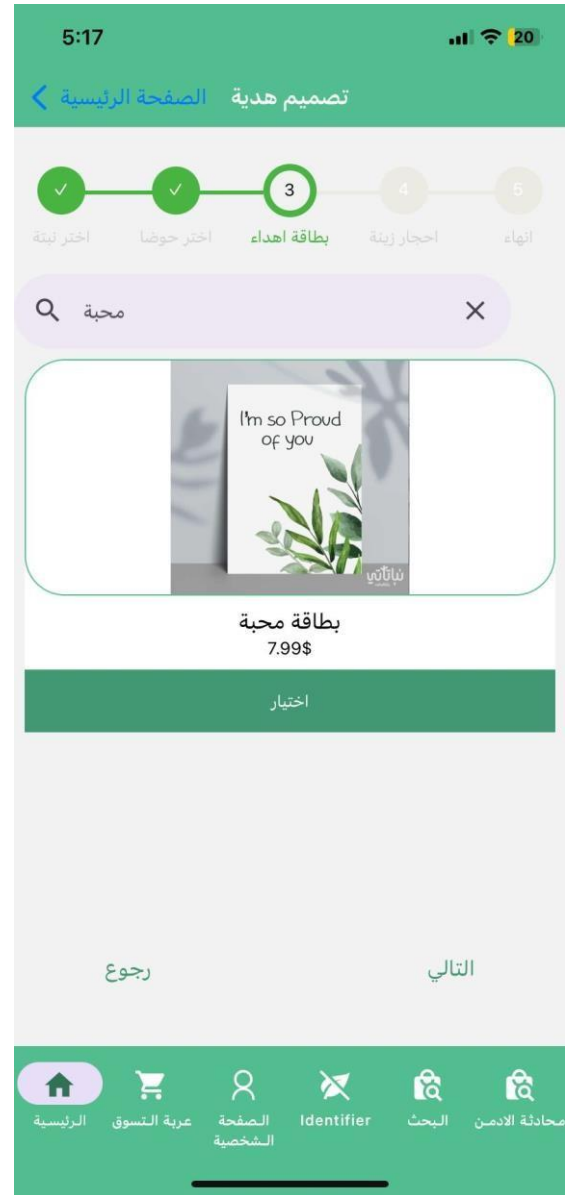


Figure 8: Chose a love card

Choosing a love card to add to the gift to make it a complete and thoughtful present.



Figure 9: Choosing decorative stones.

Choosing the decorative stone you want to use for embellishing the plant.

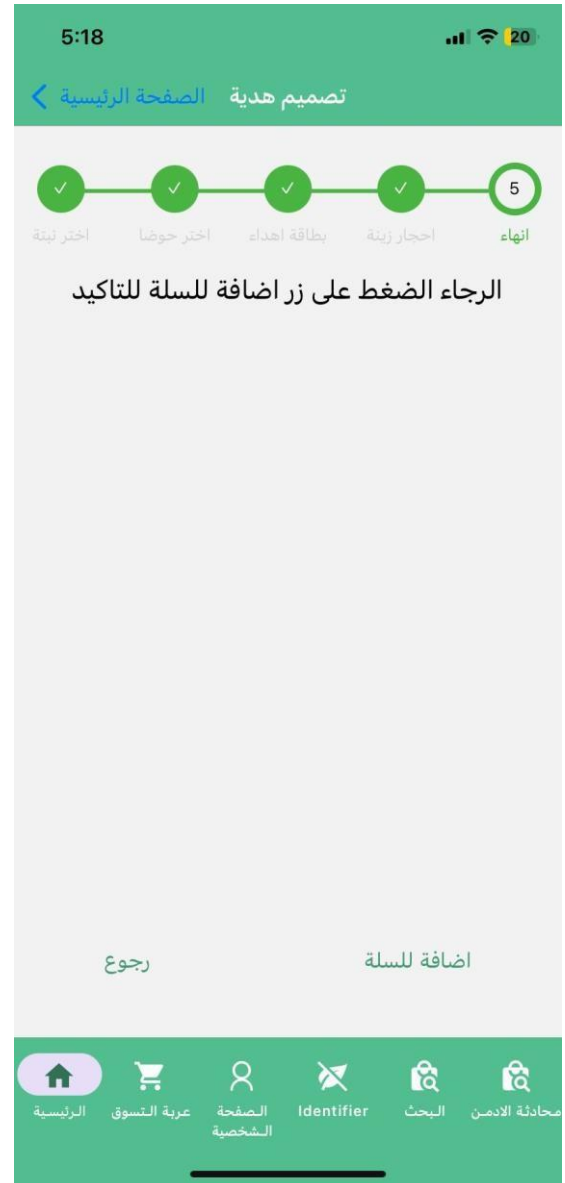


Figure 10: Add order to the cart

Confirm your order by adding it to your cart.



Figure 11: Shopping cart in the gift design.
Here's Displaying your complete selection for the gift and confirming it.

Plant identifier:

We use plant.Id Identify plants and plant diseases. For free.

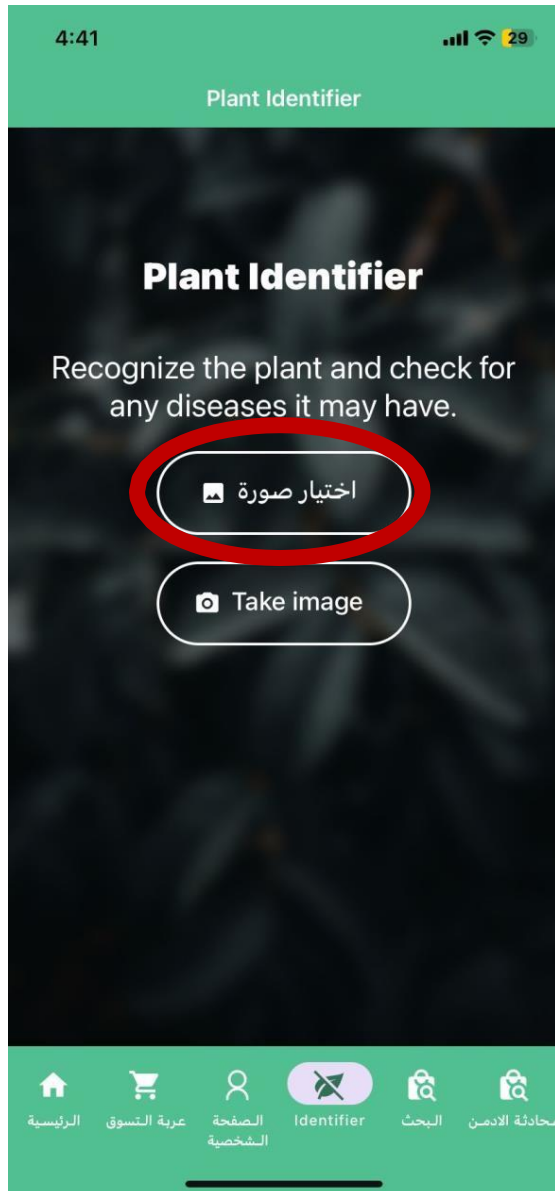


Figure 12: Detect plant AI.

On this page, we have implemented an artificial intelligence feature to determine the status and health of the plant, including its name and what it needs to improve its condition.

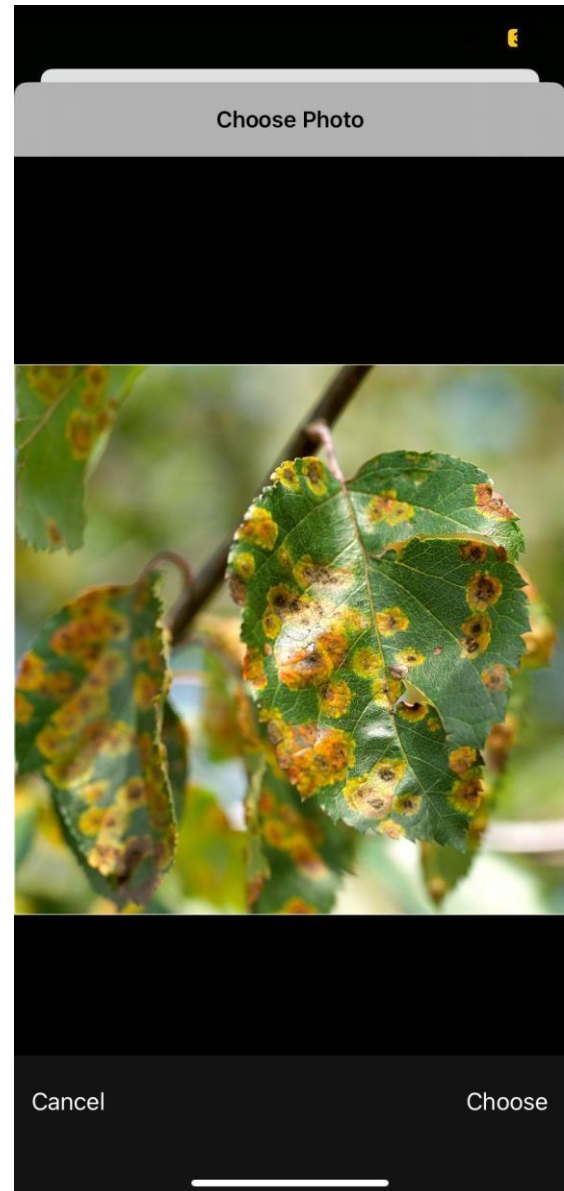


Figure 13: Choose photo from library

Initially, we will select an image from the phone's gallery, add it to the application, and see the results together.

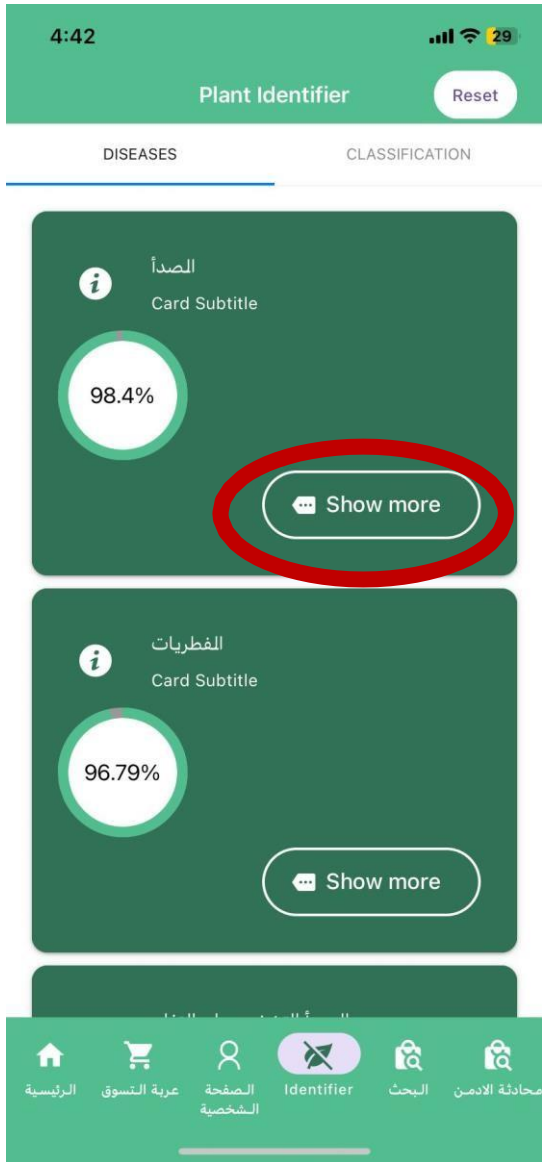


Figure 14: Show the possibilities of plant disease

On this page, after adding the image, it shows the probability of plant disease, and the highest percentage is the highest probability of infection.

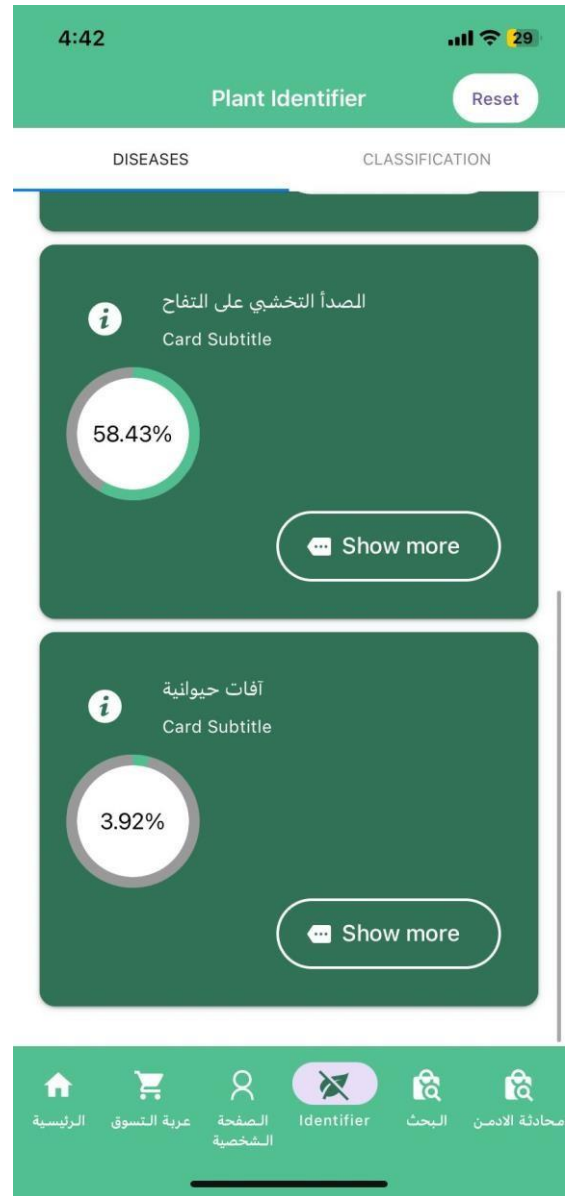


Figure 15: Continue the page for other expected diseases

We also see that the percentage is highest at the beginning and then lower and lower



Figure 16: Information about the disease

On this page, we have selected the rust that had the highest incidence to read information about it and how to treat it

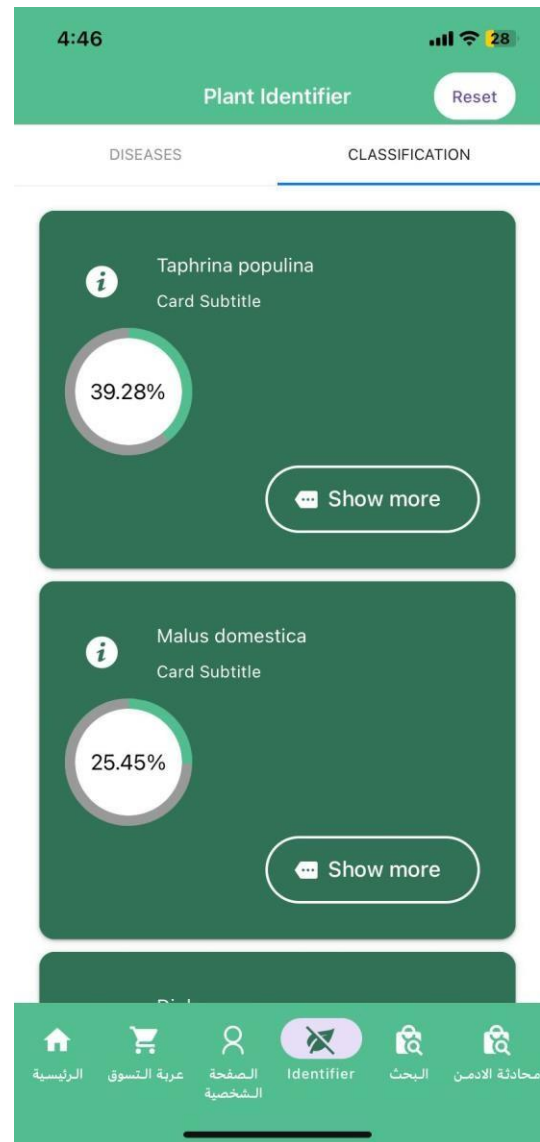


Figure 17: Know the name of the plant

Also, here to find out the name of the plant, we choose the name that has the most similarity

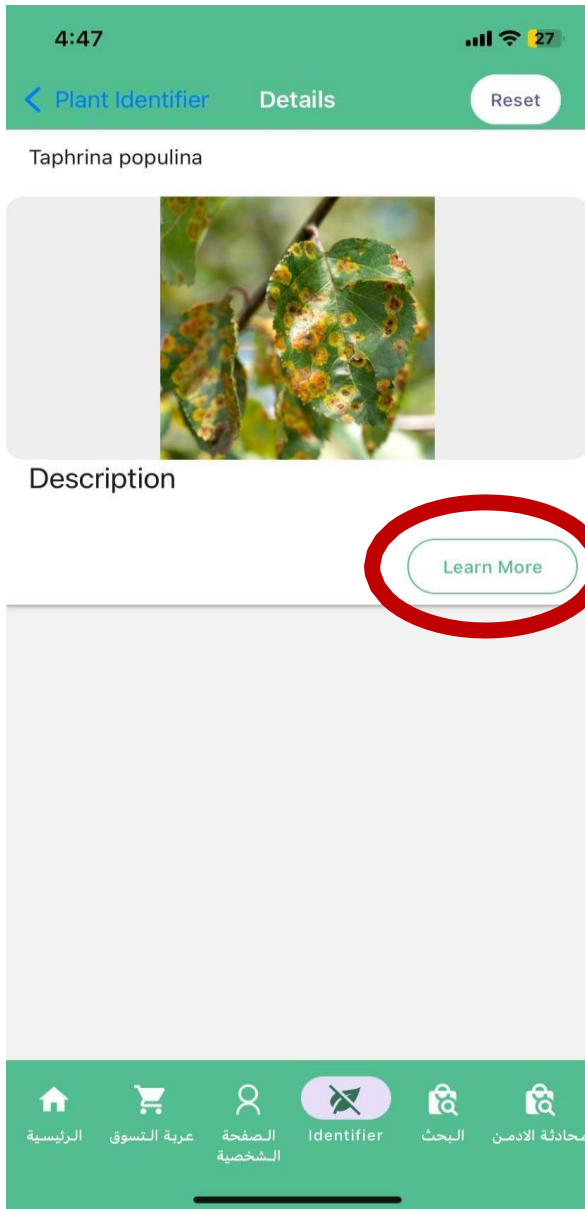


Figure 18: Choose the matching name

Choose the name that gave the highest match rate

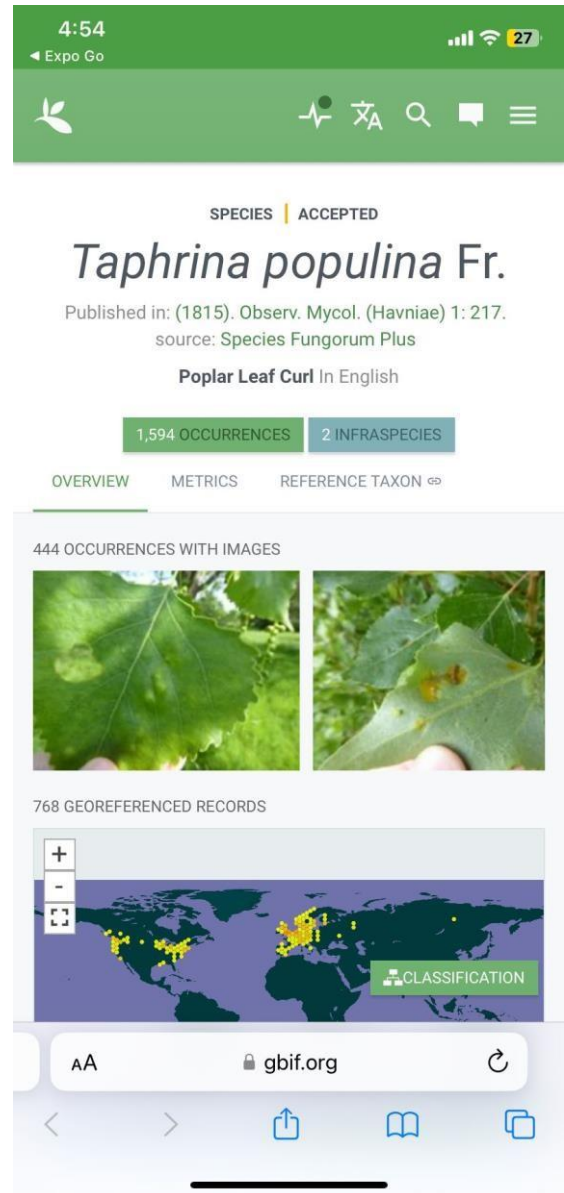


Figure 19: The name of the plant and its healthy appearance

After we choose the name that has the highest matching rate, we see the plant and its good health condition

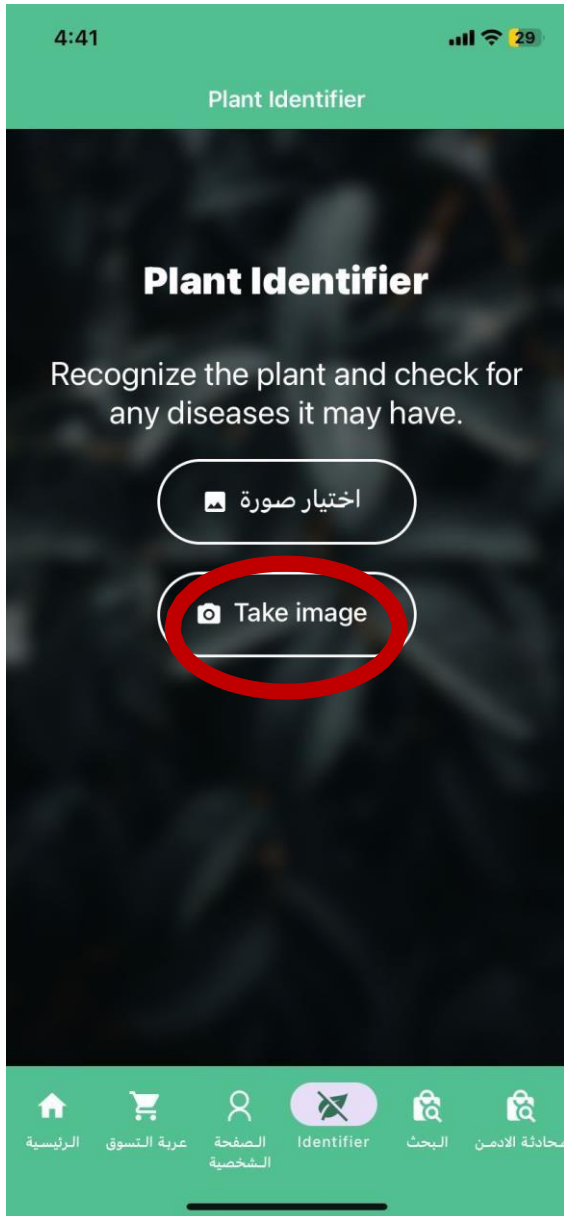


Figure 20: Take a photo directly from your mobile phone

Take a photo directly from your mobile phone to know the condition of the plant

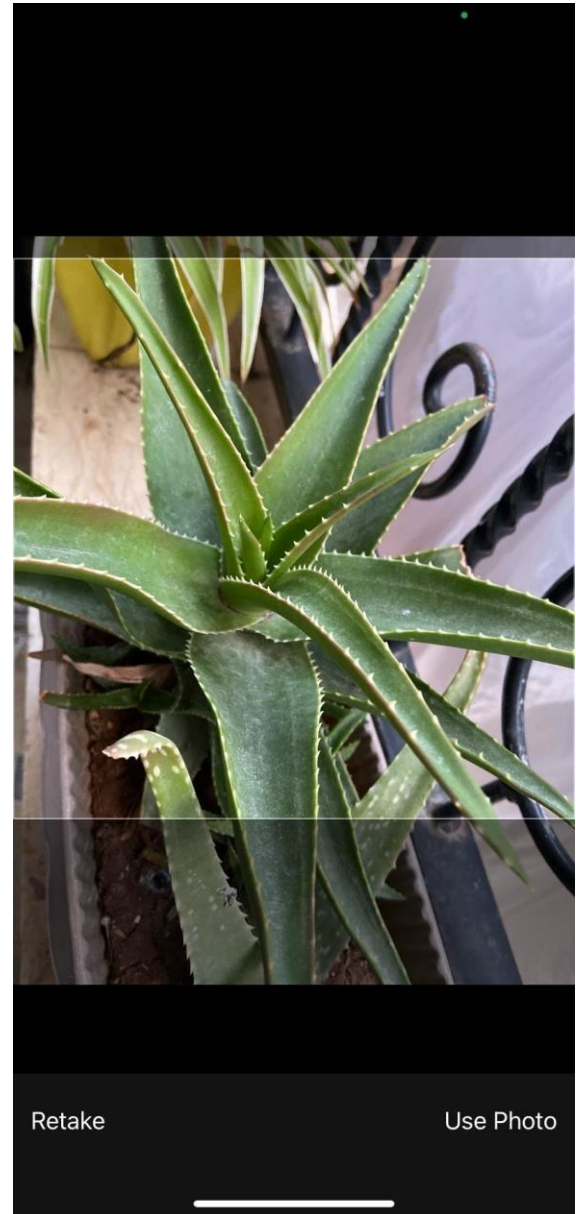


Figure 21: Take a picture of the plant

Take a photo of the plant directly

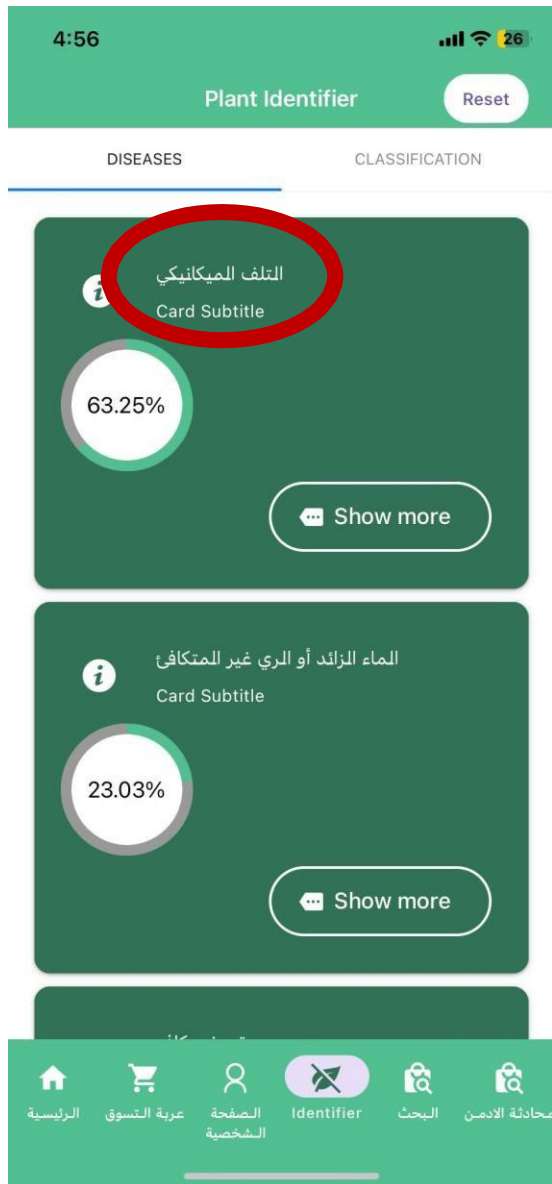


Figure 22: The disease that affected the plant

On this page, show The disease that affected the plant, and we see that the highest percentage is mechanical damage, which means that it is the disease

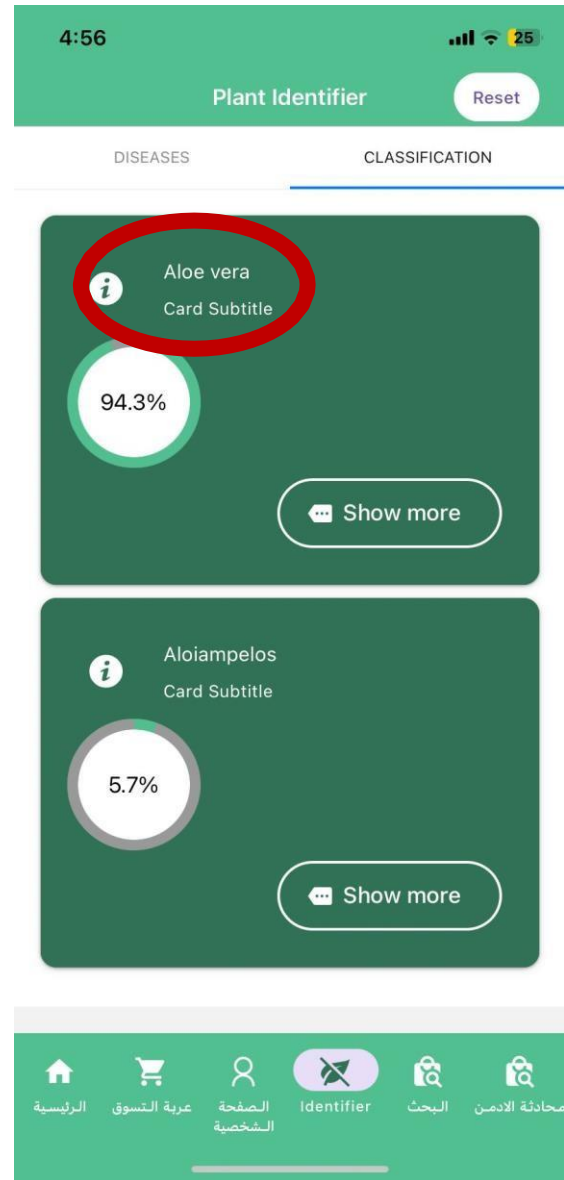


Figure 23: Plant name

The name of the plant, and we see that the highest percentage is Aloe Vera, and this is true

Search filter:



Figure 24: Search filter

On this page, This search works on 4 criteria, according to the name of the plant, the price, and the type of product



Figure 25: Search by name

On this page, Tree search and appear the results

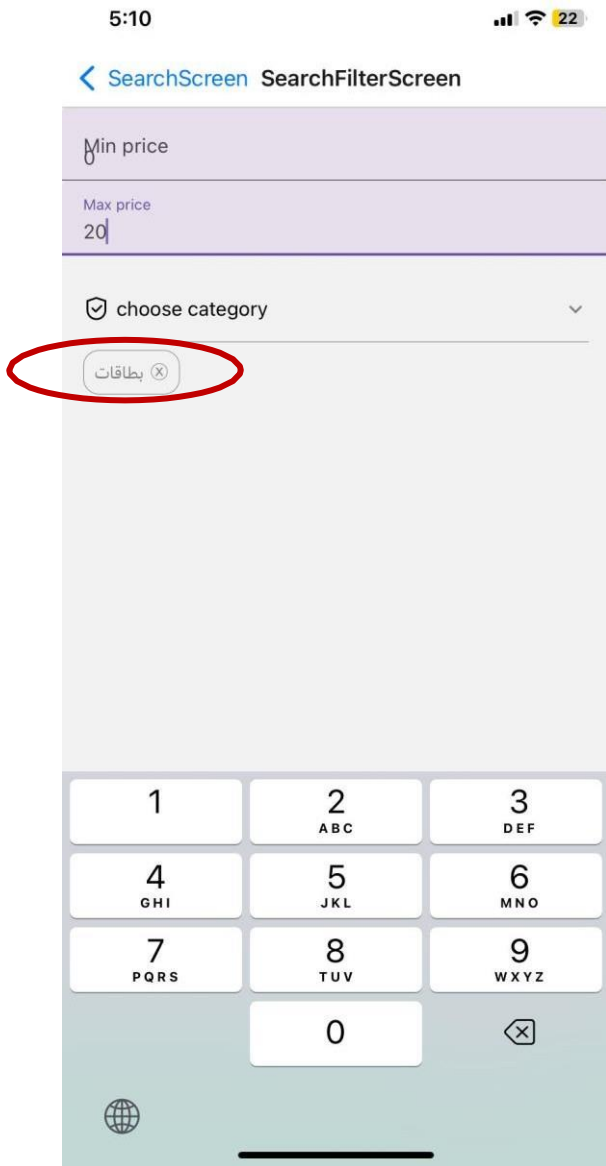


Figure 26: category and price search

Here we have chosen to search by product type and price



Figure 27: Result of search

Here the result of category "بطاقات" and price from 0-20

Buy new product:



Figure 28: indoor plants page

On this page, We want to buy an indoor plant, Sansevieria



Figure 29: Buy a plant

Read the details about the plant and confirm your purchase



Figure 30: shopping cart

On this page, Everything purchased, whether creating a gift or purchasing other products

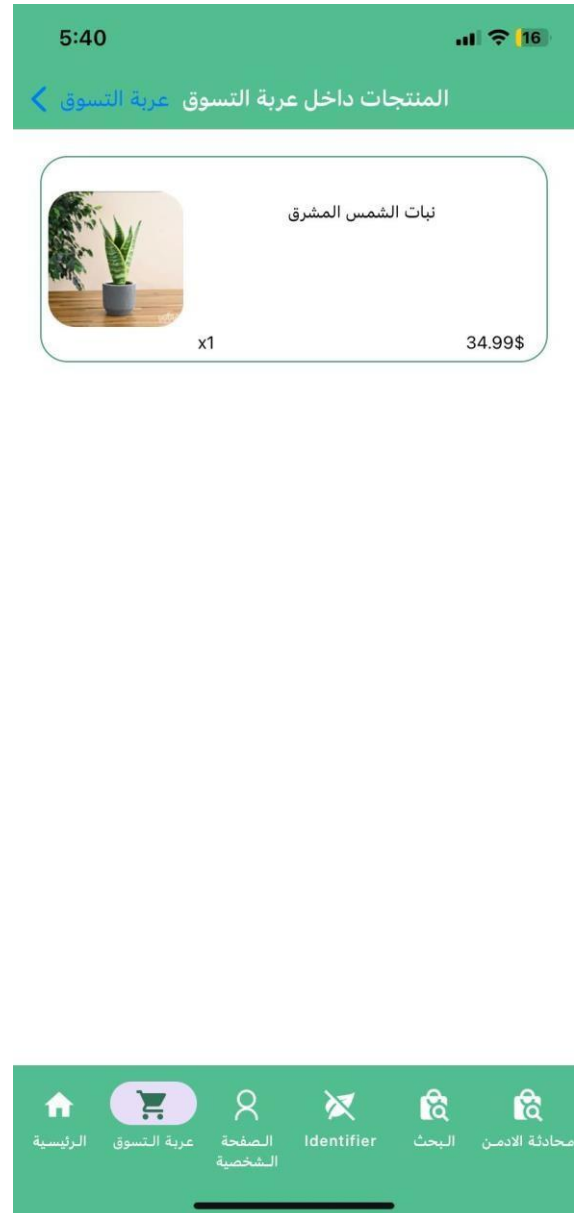


Figure 31: products shopping cart page

On this page, the patient can see all the products in any store.



Figure 32: Creating gift shopping cart page

This is what you choose to create gift

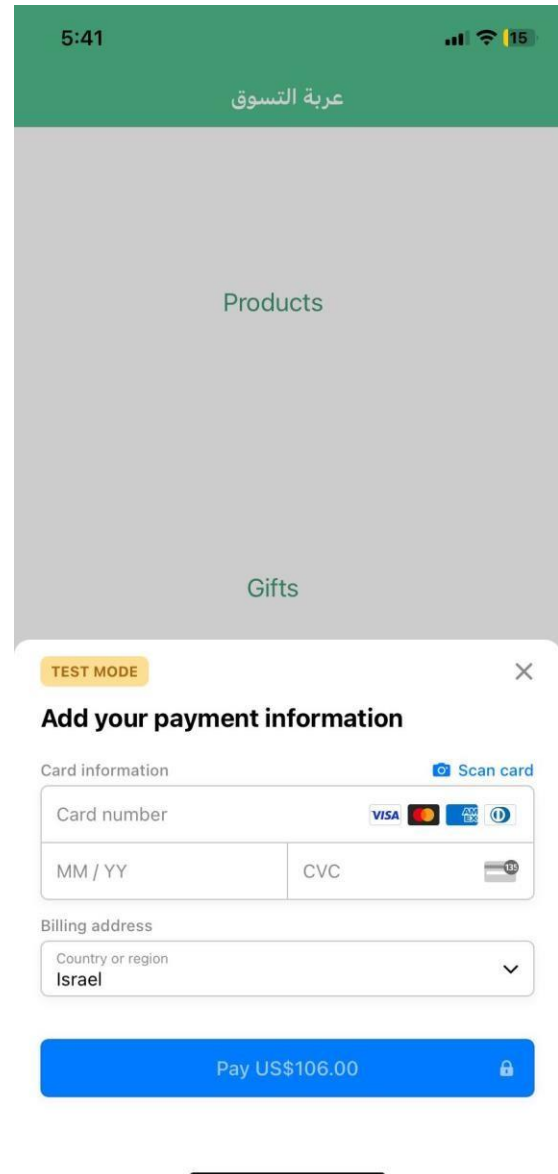


Figure 33: Payment cart

This is the purchase page through which you pay with your card

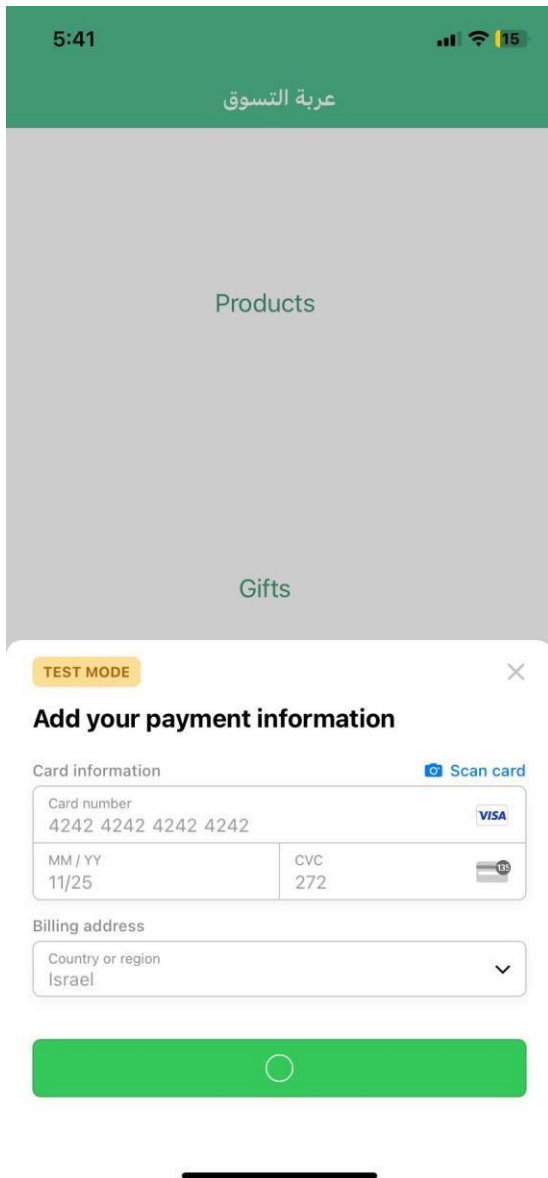


Figure 34: Payment Done

On this page, The amount was paid=106\$



Figure 35: choose how many item you want in shopping cart

On this page, the client can decrease or increase how many item need .

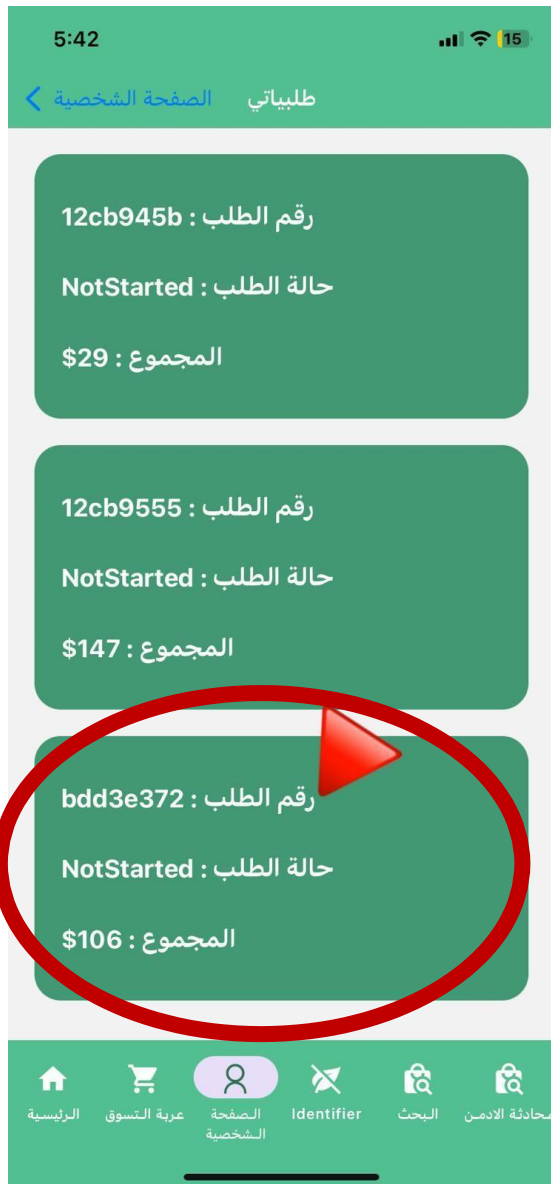


Figure 36: The order page in admin

On this page, Display all the orders and here the last order we do

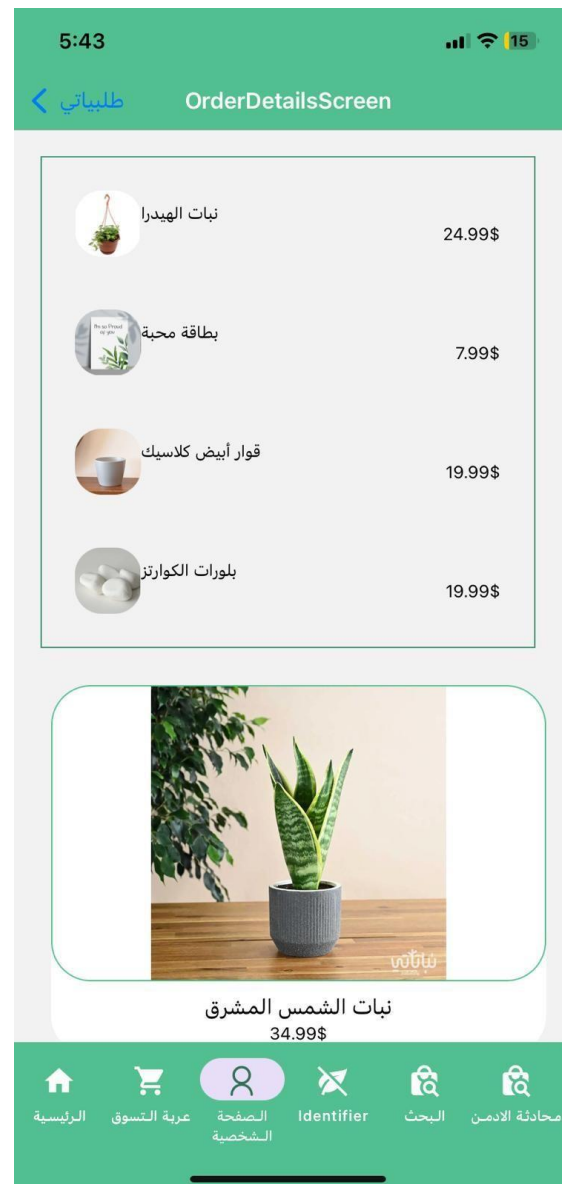


Figure 37: Show details for each order

On this page, Admin can show all order in details and what the client order.

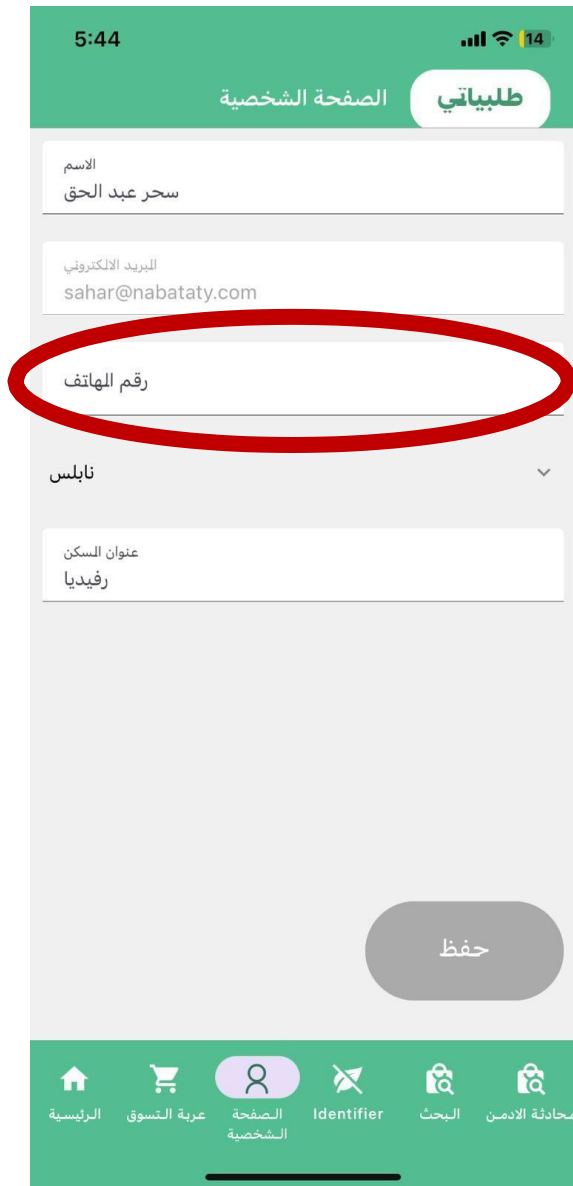


Figure 38: User page information for confirm order

On this page, when user want to conform the order he should to add all the specific information



Figure 39: the client must add all information

On this page, Any forgetting of information prevents you from requesting.

Admin pages:



Figure 40: Chatting with Admin

On this page, The client send a message to admin , and admin can easily talk to him real time Firebase.



Figure 41: Orders management

On this page, Admin can see the incoming orders And change it state



Figure 42: Oeder Information

On this page, Admin can see the order detail and the client details.

Web pages:

The web pages are the same as the application pages. Here are some examples:

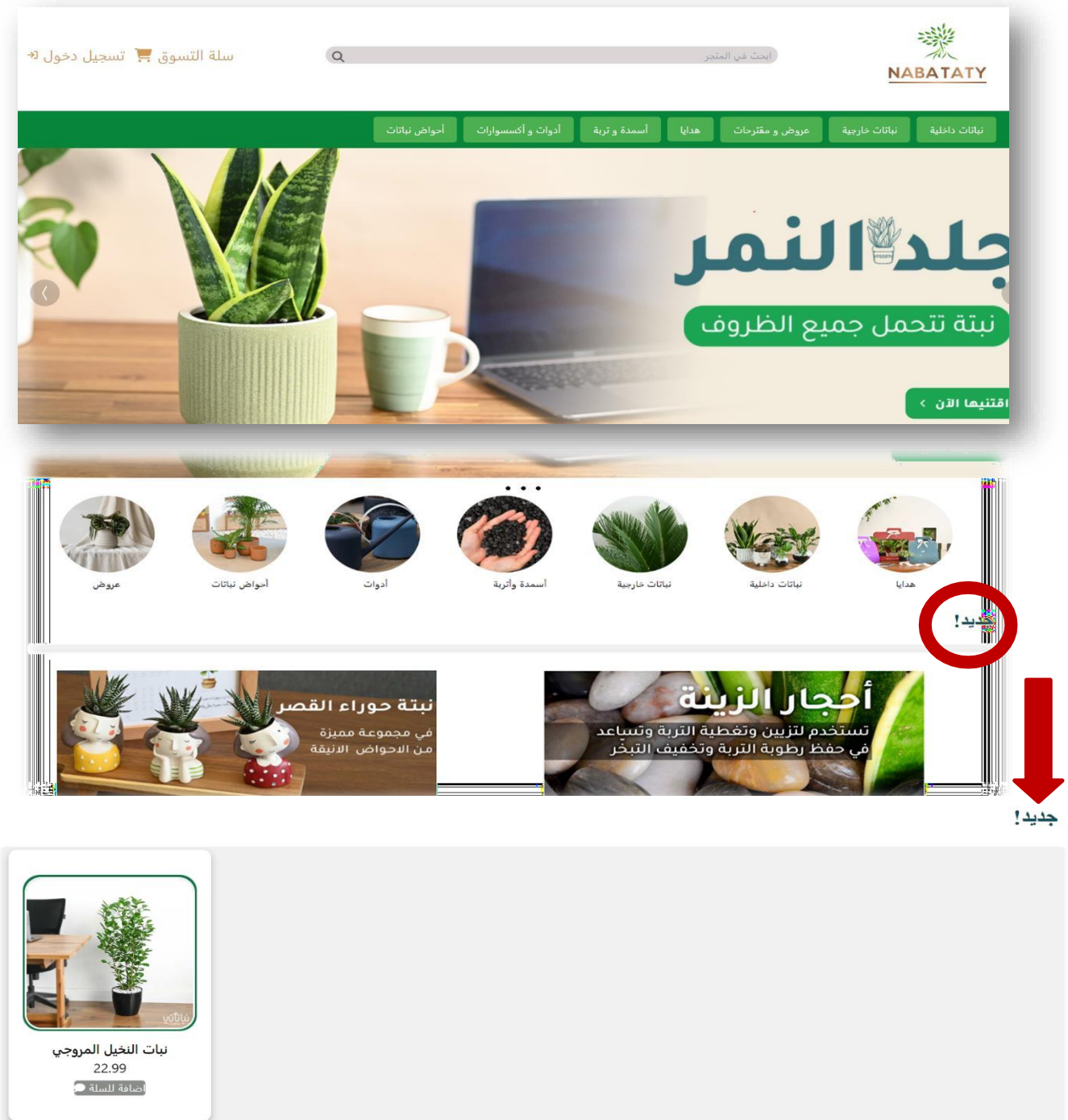


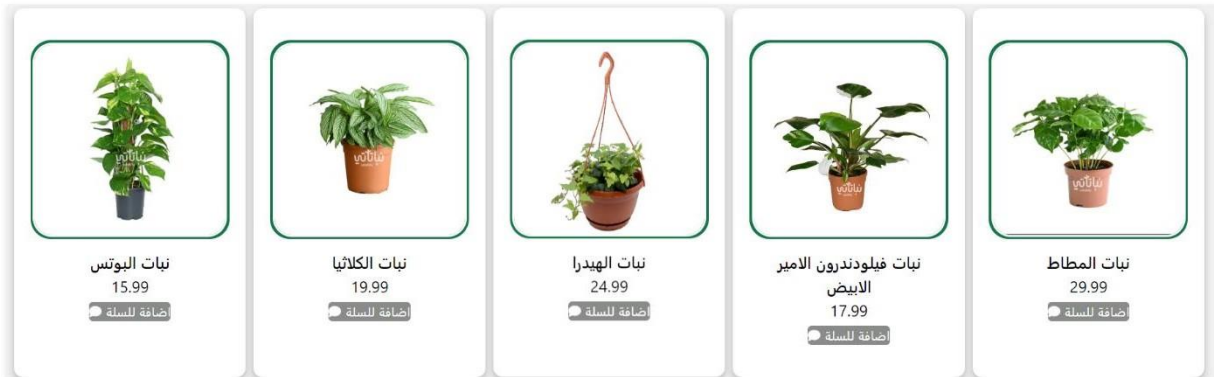
Figure 43: Home (First) page

This is the beginning of our website's homepage, and as you can see, the "New Feature" highlights the latest plants and agricultural supplies uploaded by the admin. These items will remain featured in this section for two weeks from the upload date.

مستلزمات زراعية



نباتات داخلية صغيرة



نباتات داخلية كبيرة



Figure 44: Continue For The home page 1

Here is the type of plants on the web
including Detect Ai feature



أحواض نباتات

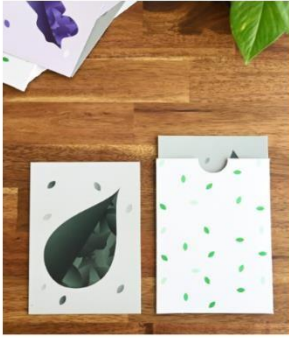


أسمدة و تربة



Figure 45: Continue For The home page 2
This is the continuation of the homepage that features the remaining products we offer, including various plants and agricultural supplies.

أقسام الهدايا



بطاقة اهداء



نباتات مجهزة في أحواض



صمم هديتك

أصنع هديتك بنفسك

اختر النبتة



نبات اليوتس
15.99



نبات الكلاثيا
19.99



نبات الهيدرا
24.99



نبات فيلودندرون الامير
الابيض
17.99



نبات المطاط
29.99

Show More



إناء زهرة سيراميكي
14.99



إناء تيراكوتا
12.99



قوار بورسلا ازرق مزركش
22.99



قوار خرساني حديث
24.99



قوار أبيض كلاسيك
19.99

Show More

Figure 46: Create Gift part

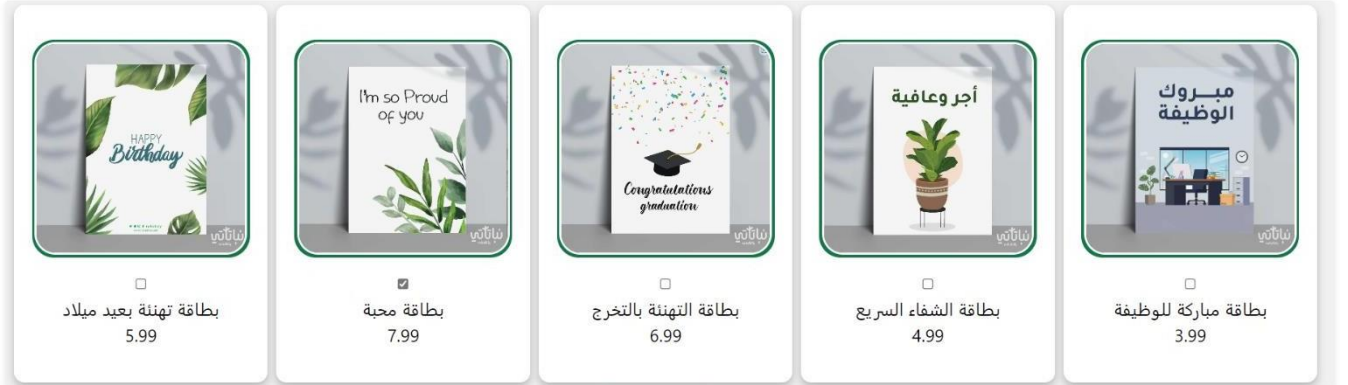
This page is for creating a personalized gift crafted and chosen by you. You can select the pot, the plant, and the decorations, and finally, add a love card.

زيتها كما تحب



Show More

أضف بطاقة إهداء



Show More

Show My Selected Products

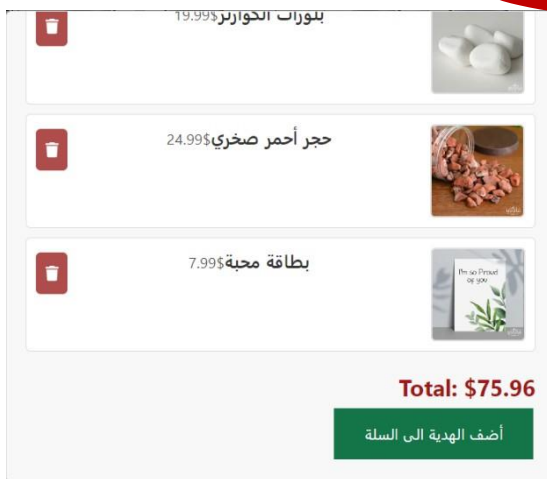


Figure 47: Continue Create Gift part

Here after user choose what he wants and show what selected

نباتات داخلية نباتات خارجية عروض و مقترحات هدايا أسمدة و تربة أدوات و أكسسوارات أحواض نباتات

حسابي

تسجيل جديد

اسم المستخدم

كلمة المرور

[تسجيل جديد](#)

تسجيل الدخول

اسم المستخدم

كلمة المرور

[تسجيل الدخول](#)

نسيت كلمة المرور؟

NABATATY Home About Us Services Contact Us

Facebook Twitter Instagram LinkedIn © 2024 All Rights Reserved.



Figure 48: Login and Signup page

Here the signup and login page when you login change the username to yours.

نباتات داخلية نباتات خارجية عروض و مقترحات هدايا أسمدة و تربة أدوات و أكسسوارات أحواض نباتات

نبات اليوتس

15.99 ر.س

نبات داخلي سهل العناية، يتميز بأوراقه الخضراء والبيضاء المنحنية: عن المنتج

ضوء غير مباشر معتدل إلى ساطع

15-26 درجة مئوية (60-80 درجة فهرنهايت)

احفظ التربة رطبة بشكل متساوٍ. اسق عندما يجف البند العلوي من التربة.

[أضف إلى السلة](#)

Figure 49: Product overview

This page displays information about the product, including details about the plant's lighting, watering, and temperature requirements.

Figure 50: Complete order & payment

Admin page:

Figure 51: admin page (Add product)

This page displays how admin can add product and all details to it

أحواض نباتات أدوات و أكسسوارات أسمدة و تربة هدايا عروض و مقترحات نباتات خارجية نباتات داخلية

تعديل وحذف المنتجات إضافة عروض جديدة إضافة منتج الطلبات الواردة

الاسم: Ahmad
السعر: الوصف للطلب: نبتة البيروميا + هدية (قوار حرساني اسود, نبتة البامبو, حجار اسود , بطاقة تهنة بعيد الميلاد) 10\$
الإجمالي: 10\$

aya22

- الطلبات الواردة
- الصفحة الرئيسية
- إضافة منتج جديد
- المراسلات
- تعديل أو حذف المنتجات
- إضافة عروض أسبوعية
- تسجيل الخروج

Figure 52: admin page (Orders)

Here all orders display in this way to admin and can enter on it for more details and chatting with client directly.

أحواض نباتات أدوات و أكسسوارات أسمدة و تربة هدايا عروض و مقترحات نباتات خارجية نباتات داخلية

حسابي

طلباتي سلة المشتريات عناويني العروض الاسبوعية

yosef

طلباتي

- افحص بيتك
- سلة التسوق
- الصفحة الرئيسية
- هدايا
- تعديل الملف
- تسجيل الخروج

سلة المشتريات

	نبات البامبو المنزلي	2	السعر: 29.99\$	الإجمالي: 59.98\$
	نبات الترنجس	1	السعر: 22.99\$	الإجمالي: 22.99\$
	نبات النخيل المروجي	3	السعر: 22.99\$	الإجمالي: 68.97\$
				الإجمالي: 151.94\$

Figure 53: User page.

All details and orders can preview here in this page also he can edit his profile and make all features out website provides to him

5. RESULTS AND DISCUSSION

5.1. Results

As a result of our planting project, the focus has been successfully placed on providing an enjoyable and seamless experience for users looking to incorporate plants into their lives. Through the use of technology, we have made high-quality plants and stylish pots easily accessible, offering comprehensive information on plant care. Our project stands out by emphasizing the education of users about plant diseases, enabling them to identify the health status of their plants and address potential issues. Additionally, the introduction of personalized gift options adds a unique touch to the experience, allowing users to express their feelings through the beauty of nature. Beyond being a mere transactional platform, our initiative promotes the formation of a community centered around everyone's love for plants, encouraging sustainability, and fostering a deeper understanding of plant needs. As we conclude, we look forward to a flourishing future for our community and the positive impact our project can have in achieving a greener and healthier life for users.

5.2. Discussion

The project's foundation lies in recognizing the importance of seamlessly blending the digital experience with the tangible world of plants. The utilization of technology, whether through online platforms or mobile applications, opens avenues for enhanced user engagement, education on plant care, and community building. Discussions surrounding sustainable practices, environmental impact, and the psychological benefits of plant ownership have guided our project's direction. As we move forward, ongoing conversations about user preferences, emerging trends, and the evolving needs of the plant-loving community will continue to shape and refine our approach. The dynamic interchange between technology and nature forms the heart of our planting project, striving to create a meaningful and enduring connection between individuals and the world of greenery.

6. CONCLUSION AND RECOMMENDATION

6.1. Conclusion

In conclusion to our project, "NABATATY," we take pride in having cultivated a platform that goes beyond the mere transaction of plants and pots. "NABATATY" has successfully nurtured a community where the love for greenery is celebrated, and users are empowered with knowledge on plant care. By seamlessly integrating technology, we've made the process of acquiring high-quality plants and stylish pots a delightful experience. The emphasis on educating users about plant diseases has added a crucial layer to our project, ensuring the health and longevity of their green companions. The introduction of personalized gift options further enriches the connection between users and nature. As we wrap up "NABATATY," we envision a future where our community thrives, fostering sustainability, appreciation for nature, and a vibrant, plant-filled lifestyle for all our users.

6.2. RECOMMENDATION

To enhance our planting project, focus on advancing machine language capabilities for more precise and comprehensive monitoring of plant conditions. Strengthen interactive features, enabling the system to inquire about specific plant conditions and their surroundings. Explore the integration of additional technologies to enhance communication between users and the system, with a special emphasis on improving user interfaces and introducing new features for enriched interaction. Regularly explore technological advancements to keep the project updated and aligned with the evolving needs and expectations of users.

6.3 WHAT WE HAVE LEARNED

- How to work with React Native, Node.js,
- How to use MongoDB, Postman workbench and firebase (for notification and chatting) databases.
- How to use Ai in our project to Plant Identifier, and know the Plant diseases.
- Building an integrated system with a team spirit and cooperation

6.4. FUTURE WORK

- Improve the chat system by adding voice messages, images, and videos.
- Adding feedback posts to the application for renting for people and communicating with each other Enable users to upload multiple images and video for items.
- The possibility of designing bottles and drawing on them according to customer requests.
- Recommendation system. when client create gift. When client chooses a plant, we begin by suggesting suitable pots for it

REFERENCES

- [1] N. Robinson, "The Planting Design Handbook," New York, NY: Taylor & Francis, 2004. ISBN: 978-0415310175.
- [2] J. Lowenfels and W. Lewis, "Teaming with Microbes: The Organic Gardener's Guide to the Soil Food Web," Portland, OR: Timber Press, 2006. ISBN: 978-1604691139.
- [3] E. C. Smith, "The Vegetable Gardener's Bible," North Adams, MA: Storey Publishing, 2009. ISBN: 978-1603424752.
- [4] P. Oudolf and N. Kingsbury, "Planting: A New Perspective," Portland, OR: Timber Press, 2013. ISBN: 978-1604693706.
- [5] "Journal of Plant Nutrition," vol. 25, no. 2, pp. 123-145, 2015.
- [6] "Permaculture Magazine," vol. 10, no. 4, pp. 56-78, 2020.
- Certainly! Here are six references related to planting:
- [7] M. R. George, "Botany for Gardeners," Portland, OR: Timber Press, 2010. ISBN: 978-1604690958.
- [8] S. A. Hobbs, "The Complete Guide to Planting Perennials," New York, NY: Rodale Books, 2002. ISBN: 978-0875968592.
- [9] F. H. Smith, "The Art of Planting: Designing and Planting Your Garden for Year-Round Enjoyment," London, UK: DK, 2014. ISBN: 978-1465414494.
- [10] R. L. Fielding, "Planting and Maintaining a Butterfly Garden," Chicago, IL: Chicago Review Press, 2016. ISBN: 978-1613731515.
- [11] "International Journal of Plant Science," vol. 30, no. 3, pp. 267-289, 2018.
- [12] A. Thompson, "The Well-Tempered Garden: The Time and Place for Planting," Boston, MA: Houghton Mifflin Harcourt, 2001. ISBN: 978-0618127421.