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Design & Implementation of Web Based Application for Plant Nursery

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Abstract:- "As getting the information from various research papers and other sources we analysis that many peoples want to buy a plants and they directly concerned to nursery but sometimes people doesn't know specific information about particular plant items as well seller is not technically skilled. Customer doesn't compare plants pricing with different shopkeeper as well as in nursery there is no facility for online payment only cash may consumed. So, in this case e-nursery is platform where customer can compare plants pricing and make online payment easily. Customer service is extremely important. We want each customer to have a pleasant shopping experience, and it is the intention of our staff to answer questions with expertise and to offer advice when we feel it is needed. Retain customers to generate repeat purchases and make referrals. Continue to expand daily sales by adding to the variety of plants we sell. Communicate with our customers through creative advertising."

Index Terms - Data Retrieval, Boolean retrieval, Database Server, HTML, CSS.

I. INTRODUCTION

A nursery is a place where plants are propagated and grown to a desired age. They include retail nurseries which sell to the general public, wholesale nurseries which sell only to businesses such as other nurseries and to commercial gardeners, and private nurseries which supply the needs of institutions or private estates.

Nurseries may supply plants for gardens, for agriculture, for forestry and for conservation biology. Some produce bulk stock, whether seedlings or grafted, of particular varieties for purposes such as fruit trees for orchards, or timber trees for forestry. Some produce stock seasonally, ready in springtime for export to colder regions where propagation could not have been started so early, or to regions where seasonal pests prevent profitable growing early in the season.

II. 1.1 Methods

Nurseries grow plants in open fields, on container fields, in tunnels or greenhouses. In open fields, nurseries grow decorative trees, shrubs and herbaceous perennials. On container field nurseries grow small trees, shrubs and herbaceous plants, usually destined for sales in garden centres. These have proper ventilation, sunlight etc. Plants may be grown by seed(s). The most common method is by cutting plants/plant cuttings. These can be taken from shoot tips or from roots etc. By these methods plants are grown in nurseries and gardens

III. 1.2 Conditioning

With the objective of fitting planting stock more ably to withstand stresses after out planting, various nursery treatments have been attempted or developed and applied to nursery stock. Buses and Day (1989), for instance, studied the effect of conditioning of white spruce and black spruce transplants on their morphology, physiology, and subsequent performance after out planting. Root pruning, wrenching, and fertilization with potassium at 375 kg/ha were the treatments applied. Root pruning and wrenching modified stock in the nursery by decreasing height, root collar diameter, shoot: root ratio, and bud size, but did not improve survival or growth after planting. Fertilization reduced root growth in black spruce but not of white spruce.

Nursery stock size typically follows the normal curve when lifted for planting stock. The runts at the lower end of the scale are usually culled to an arbitrary limit, but, especially among barefoot stock, the range in size is commonly considerable. The stock was regarded into large, medium, and small fractions according to fresh weight. The small fraction (20% of the original stock) had barely one-quarter of the dry matter mass of the large fraction at the time of out planting. Ten years later, in the blade-scarified site, seedlings of the large fraction had almost 50% greater stem volume than had seedlings of the small fraction. Without site preparation, large stock was more than twice the size of small stock after 10 years.

IV. LITERATURE REVIEW

[1]Alessandro Peressotti, Francesca Peressotti, Maria Bulgheroni, Walter Baccinelli, Enrico D'Amico, Alejandra Gómez, Stefano Massaccesi (November 2019).“Flexible control of movement in plants”-In this research paper authors describe about the growth of plant in control manner. It characterize the movement of circumnutating performed by the tendrils of a climbing plant (Pisum sativum L.) as they approach a support.

[2] A way for Enhancing Incomer. Singh1, L.K. Meena2* and Parameter Singh (June 2017).“High Tech Nursery Management in Horticultural Crops:”-In this paper authors describe the high tech nursery management system in horticultural crops. The aim of good nursery management is to make available planting material of the highest possible quality for new development areas and replanting.

[3] P.Ratha Krishnan, Raj want K. Kalia, J.C.Tewari, M.M.Roy (August, 2014).“Plant Nursery Management:”-Through these paper authors conveyed problems faced during the research and have also provided suitable solutions over it. Plant nursery management involves running a business that grows and sells plants for private or commercial use. This can involve selling plants wholesale or directly to customers through mail order, online or garden outlets.

[4] Assessment Of Small Scale Private Plant Nursery Enterprise In Port Harcourt, Rivers State Larine, S.L. & Ruth Santos (January,2014).“Small Scale Private Plant Nursery Enterprise:”-This research informing us about the cost of establishment of plant, time as well as hard work to be given and about revenue. Small scale private plant nursery enterprise is a self-employment business that can contribute to income generation and socio-economic development of a state, but it has not been embraced because little or no information exist on costs and return from investment. The cost of establishing a small scale private plant enterprise was evaluated in this study.

[5]An Economic Study of Plant Nursery Business in Jaipur Districts of Bangladesh M. A. Haque1, M. A. Moneyed Micah2 and M. A. Rashid (January, 2007).“Economic Study of Plant Nursery Business:”-This research paper focused on improvement of nurseries in developing countries. Bangladesh is an agro-based country where 85 per cent people live in rural areas. They have mostly nutritional deficiency. In order to meet the nutritional demand of increasing population of the country, huge amount of fruits and vegetables need to be produced. The government of Bangladesh has, therefore, given special emphasis for planting different fruit trees and medicinal plants over the country. In this situation, improved variety of fruit and medicinal saplings/seedlings are very essential for distribution among the farmers and other enthusiastic people

[6]The Need for Improved Nursery Management Practices and Marketing in Tree Nurseries of Northern Mindanao Don Immanuel Derain and Agustin Mercado Jar (January, 2010).“The need for improved nursery management practices and marketing in tree nurseries of northern Mindanao:”-This research is based upon the notion that Northern Mindanao is experiencing a limited availability of planting materials and that the majority of the seedlings from nurseries are of low quality as a result of low technical skills and the lack of nursery facilities, thereby resulting in a low rate of success for tree growing initiatives in this region.

[7]Yama Rajeev Kumar, Vijayakumar S. and Das Pandiyaraj Arindam (November, 2017).“Modem nursery raising system in vegetables:”-This paper provides methods for nursery raising system in vegetables. Raising healthy seedlings under good nursery management practices is a successful vegetable production. Seedling tray technology was developed for the efficient production of high quality seedling for transplanting.

[8] National Agricultural Innovation Project, Indian Council of Agricultural Research, New Delhi - 110012.“Horticulture Nursery Management:”-This Research Paper on Innovations in Technology Mediated Learning: An Institutional Capacity Building in using Re-usable Learning Objects in Agro-horticulture under the aegis of National Agricultural Innovation Project is the outcome of efforts while working with International Crops Research Institutes for Semi-Arid Tropics, Hyderabad.

[9] Leon H. Liege, Charles Senator (October, 1987). “A technical guide for forest nursery management in the Latin America and Caribbean.”-In This Research paper technical guide' is a comprehensive summary of forest nursery practices for the Caribbean, tropical Latin America, and, to a lesser degree, other tropical areas in the world. Included are actual and the authors' recommended practices, pointing out the advantages and disadvantages wherever possible with specific examples

[10] C. Monahan. Rates, Laya P. Nair, Rajesh Kumar. “Disease problem in root trainer forest nurseries in Kerala state and their management.”-This research paper based on root trainer nurseries where , soil-borne fungal diseases seldom occur mainly due to the use of soil- less or soil-free growing media and maintaining the nursery in hygienic conditions.

Comparison table given below:-

Sr no.	Title	Author	Objective	Limitation
1.	Flexible control of movement in plants (November, 2019)	1.FrancescaPeressotti 2. Maria Bulgheroni 3. Alejandra Gómez 4. Stefano Massaccesi	In these circumstances the tendrils' kinematics resemble those observed for the condition in which no support was offered. We discuss these data in light of the evidence suggesting that plants are equipped with sensory mechanisms able to provide the necessary information to plan and control a movement.	We draw attention to an unsolved problem in available literature: whether during the approach phase the tendrils of climbing plants consider the structure of the support they intend to grasp and plan the movement accordingly ahead of time.
2.	High-Tech Nursery Management System (June,2017)	1. L.K. Mena 2.Parameter Singh 3.R.R.Singh	Some important species do not seed ever year. Plantations of these species can be raised annually, only by sowing all available seeds in nursery to raise seedlings to be planted out various years.	Poor planting materials lead to low yield and unnecessary thinning cost top rid of runts in planted field.
3.	Small Scale Private Plant Nursery Enterprise (January,2014)	1. Larine, S.L. 2.Ruth Santos	Small-scale enterprises certainly play an important role in the production of goods and services and in the generation of substantial employment and income in almost all countries, both developing and developed. Income generated in small-scale enterprises would depend largely on the nature of local demand and the overall state of the local economy	A random sample of nurserymen operating in the city was interviewed about their reasons for engaging in the nursery business, types of services rendered by the nurserymen to seedling buyers, duration of nursery establishment, mode of land acquisition, species of seedling produced, factors affecting price of the seedling species, and source and cost of labor.
4.	Plant Nursery Management (August,2014)	1.P.Ratha Krishnan 2. Raj K. Kalia 3.J.C.Tewari 4. M.M.Roy	It provides employment opportunities for technical, skilled, semi-skilled, unskilled labor. They are an important source supplying the seedlings for meeting the fruit, pulp and paper, fuel wood, timber and other demands of the industries	As many people want to buy a plants and they directly concerned to nursery and buy the plants but sometimes people doesn't know specific information about particular Plant items as well as seller are not technically skilled.
5.	Economic Study of Plant Nursery Business (January,2007)	1. M.A. Hague 2.M.A.Monayem Mim 3. M.A.Rashid	In order to meet the nutritional demand of increasing population of the country, huge amount of fruits and vegetables need to be produced. The government of Bangladesh has, therefore, given special emphasis for planting different fruit trees and medicinal plants over the country.	Customer doesn't compare plant price with other shopkeepers at the same time.

6.	Modem nursery raising system in vegetables (November ,2017)	1. Yama Kumar 2. Vijaya Kumar 3. Das Pandiyaraj Arindam	The main purpose of raising seedlings in protected structure is to produce quality and disease-free seedlings in off season to raise early crop in protected condition or open field condition to get higher profit.	Lack Of Trained Personnel And Skilled Labors For Doing Nursery Activities. Initial Establishment And Maintenance Cost For Nursery Needs To Be Met By The People, Which They Presume As A Risk Bearing Activity
7.	The need for improved nursery management practices and marketing in tree nurseries of northern Mindanao (January,2010)	1.Don Derain 2. Agustin Mercado	It was found that some of the generally recommended nursery management practices necessary to produce high quality seedlings were not widely practiced, such as soil sterilization, and grading and hardening of seedlings. These management practices support improved growth of seedlings.	A seedling quality assessment revealed that seedlings were of low quality in all nursery types with weak stems, imbalanced root-shoot ratio and J-root formation. It was also found that most nurseries did not apply soil treatment which is one of the basics for growing seedlings.
8.	Horticulture Nursery Management	National Agricultural Innovation Project, Indian Council of Agricultural Research, New Delhi - 110012.	Seedlings and grafts are produced in nursery and the fruit orchards and ornamental gardens can be established with minimum care, cost and maintenance. The nursery planting materials are available at the beginning of the planting season. This saves the time, money and efforts of the farmers to raise seedlings.	Qualitative and quantitative food can essentially be produced from healthy plants which in turn are produced only when their seedlings/saplings are vigorous and healthy.
9.	A technical guide for forest nursery management in the Latin America and Caribbean (Octomber,1987)	1.Leon H. Liege 2. Charles Senator	It shows comparison between bulb and pots plants.	Difference on bulbs and pots planting.
10.	Disease problem in root trainer forest nurseries in Kerala state and their management.	1.C. Monahan 2.N. Rates 3.Laya P. Nair 4.K.Rajesh Kumar	During this period, disease problems may occur in suggestion and if timely intervention is not performed the entire seedling group may be devastated by one or other diseases.	Introduction of root trainers in forestry sector and thereby the technological changes in seedling production brought out a major impact on nursery management

V. PROBLEM STATEMENT

Many people want to buy plants and they directly concerned to the nursery and buy the plants but sometimes people doesn't know specific information about particular plant items as well as seller which are not technically skilled.

Customer does not compare plant price with other shopkeepers at the same time .In nursery there is no facility for online payment only cash may be consumed .we cannot purchase plants through online mode. Limited customers reached to the nursery because sometime customer need to travel for long distance as nursery is far from their home.

The system has the provision of orders entered by the clients along with their contact details, grading specifications, special services, job codes, and amount of request. After an order is entered, an order confirmation report will be sent to the client for review. When all orders have been entered, a surplus for sale report will be created.

VI. PROPOSED APPROCH

Collecting the information from various research papers and other sources .We analysis that many peoples want to buy plants and they have to directly concern with the nursery. Sometimes people do not know specific information about particular plant items as well as seller is not technically skilled.

Customer does not compare plants prices with different shopkeeper and there is no facility for online payment only cash may consume.

So, in this case e-nursery is platform where customer can compare plants pricing and make online payment easily. Customer service is extremely important. We want each customer to have a pleasant shopping experience, and it is the intention of our staff to answer questions with expertise and to offer advice when we feel it is needed.

Retain customers to generate repeat purchases and make referrals. Continue to expand daily sales by adding to the variety of plants we sell. Communication with our customers through creative advertising. Customers can buy plants from their home. Customers can view a large number of plants available in a nursery. When an admin decides to check out the order, then information including the buyer's name, address and billing instruction is record in system for future references.

This project mainly divided into two modules:

A) Admin module:-

1. Admin first register and log in himself in the website.
2. He can view the order which can be added to card from the customer side.
3. He can send order confirmation message to the customer and also if any plant wants to add
4. The website then he can update the information.

B) Customer module:-

1. Customer registers and log in himself in the website.
2. He can select the plant item and purchase the plant by comparing prices with different shop keeper.
3. Purchased plant details will be added to the card.
4. He can pay amount through credit card, debit card, phone pay.
5. If any complaint about the product then he can give the feedback.

Customer and admin data management:-

Customer and admin registered data save in the database. If any changes or updating related to the data then he can update it for future references.

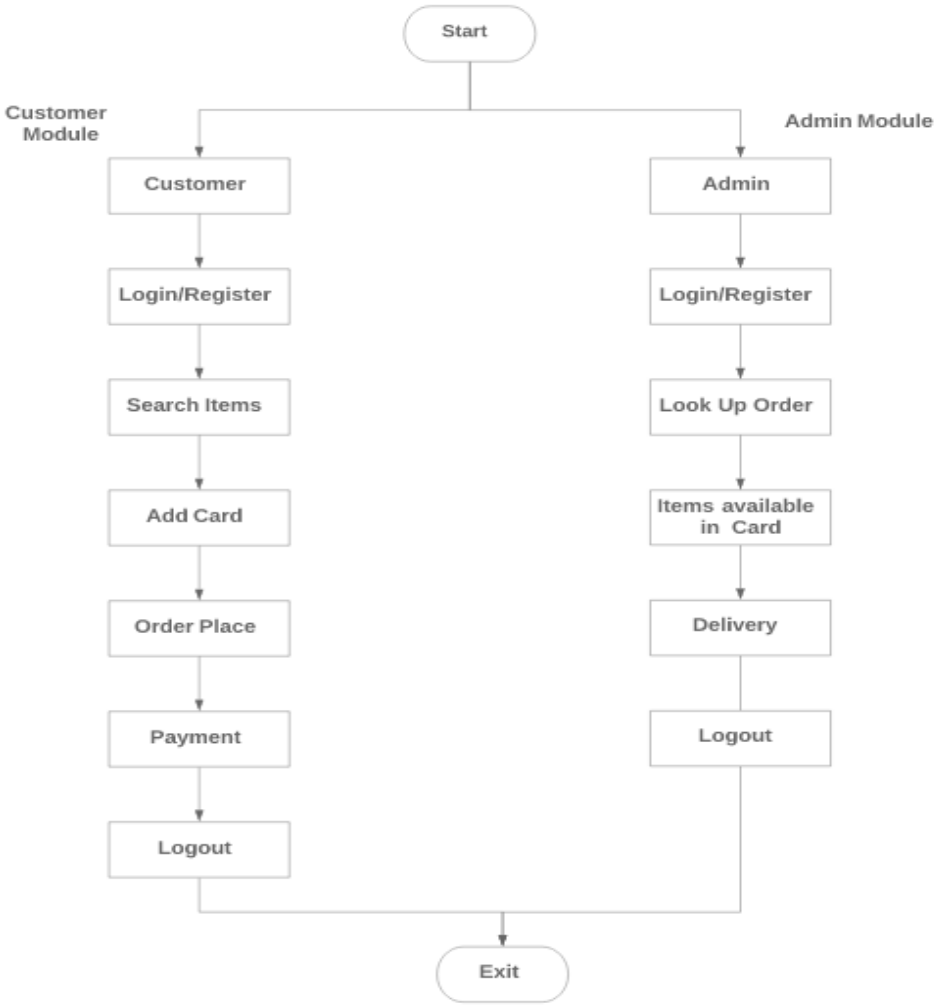

Figure: - Representation of Framework

VII. Methodology

Searching method:

Linear search is a very simple search algorithm. In this type of search, a sequential search is made over all items one by one. Every item is checked and if a match is found then that particular item is returned, otherwise the search continues till the end of the data collection. Linear search is used on collections of items. It relies on the technique of traversing a list from start to end by exploring properties of all the elements that are found on the way.

Data Retrieval:

Data retrieval means obtaining data from a database management system such as ODBMS. In this case, it is considered that data is represented in a structured way, and there is no ambiguity in data.

In order to retrieve the desired data the user present a set of criteria by a query. Then the Database Management System (DBMS), software for managing databases, selects the demanded data from the database. The retrieved data may be stored in a file, printed, or viewed on the screen.

A query language, such as Structured Query Language (SQL), is used to prepare the queries. SQL is an American National Standards Institute (ANSI) standardized query language developed specifically to write database queries. Each DBMS may have its own language, but most relational.

Data retrieval typically requires writing and executing data retrieval or extraction commands or queries on a database. Based on the query provided, the database looks for and retrieves the data requested. Applications and software generally use various queries to retrieve data in different formats. In addition to simple or smaller data, data retrieval can also include retrieving large amounts of data, usually in the form of

reports.

Transaction method:

Online Transactions through e-payment system is a process of online payment of products and services with the help of internet directly from bank using its features such that amount of money taken forms a payer and money is given to payee . The two most important things we look for in e- payment systems are the order of information and the payment instructions. There are certain algorithms described in this paper that can be used to implement the security of online transactions.

Electronic payment has revolutionized the business processing by reducing paper work, transaction costs, labor cost. Being user friendly and less time consuming than manual processing, helps business organization to expand its market reach / expansion. Some of the modes of electronic payments are following.

- Credit Card
- Debit Card
- Smart Card
- E-Money
- Electronic Fund Transfer (EFT)

Authenticity of data plays a very important role in terms of security in e-payment systems. User payment details are the main information that must be kept authenticated and hidden from being revealed in any online transactions. There are various methods for authenticating the user details by multiple layers of protection. Greater the number of layers of protection, greater is the authenticity. The different security credentials in these layers are PIN, cryptographic key, digital signature, biometrics such as fingerprint etc.

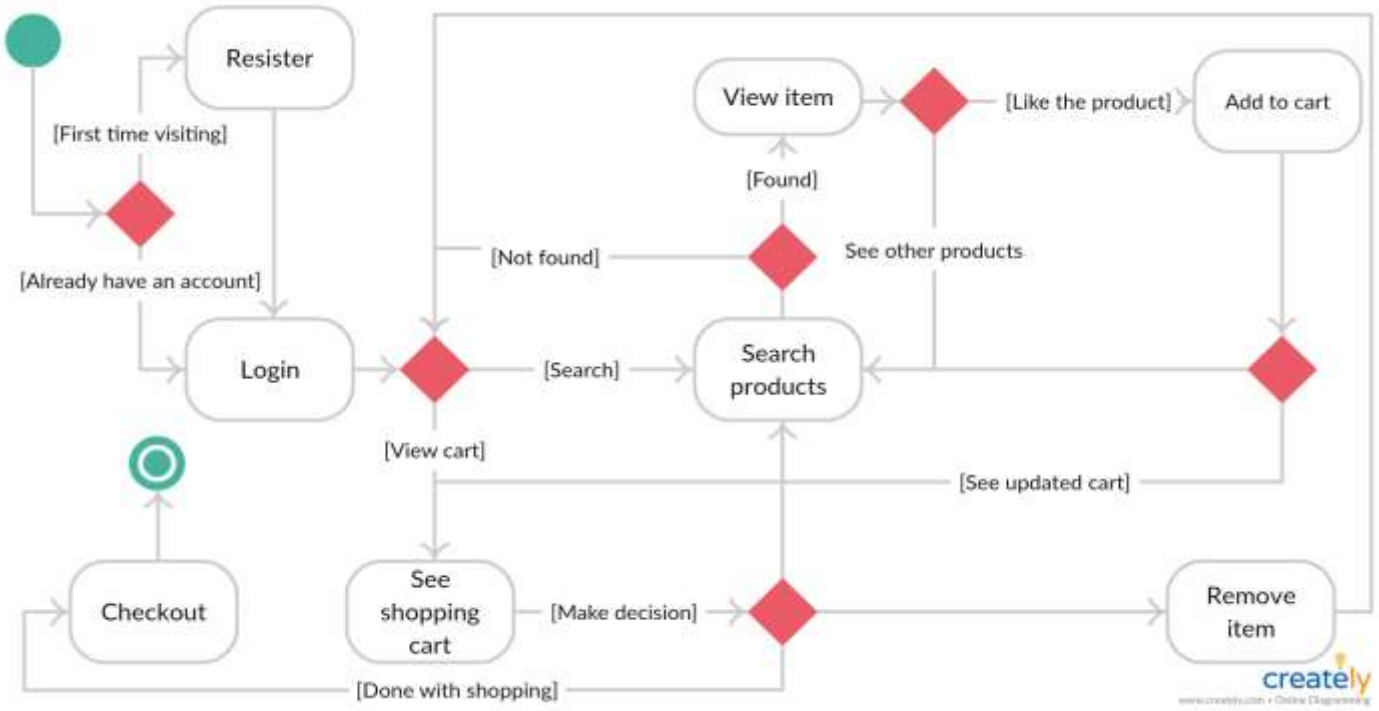

Figure: - System Architecture

VIII. RESULT AND DISCUSSION

Snapshot of designed system is given below which shows interface of various modules of system along with their Functionalities.

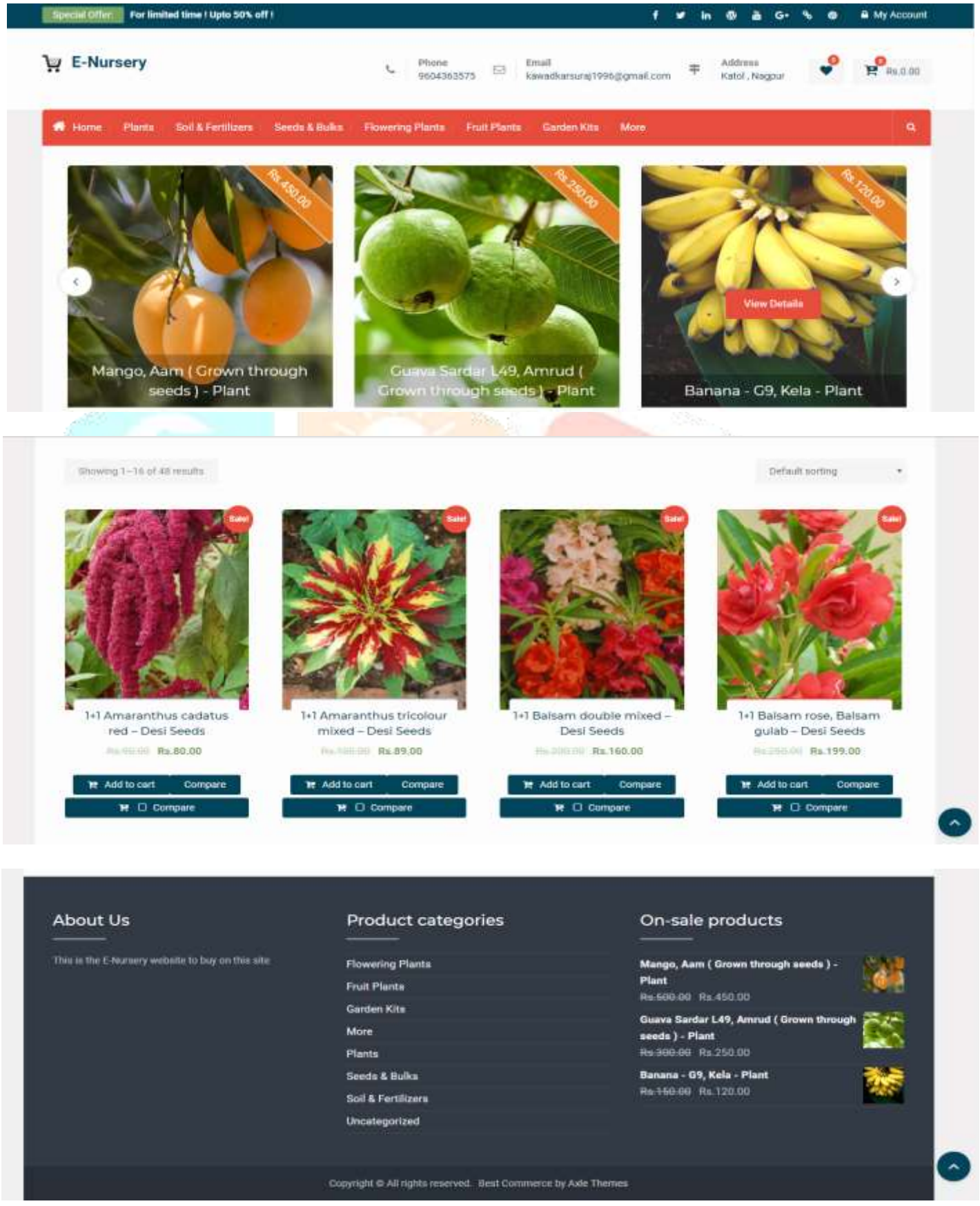

Figure: Homepage

Above snapshot is for homepage which consist different categories of plants, seed and bulbs, flowers, soil and fertilizers.

Each module having Registration and Log in page.

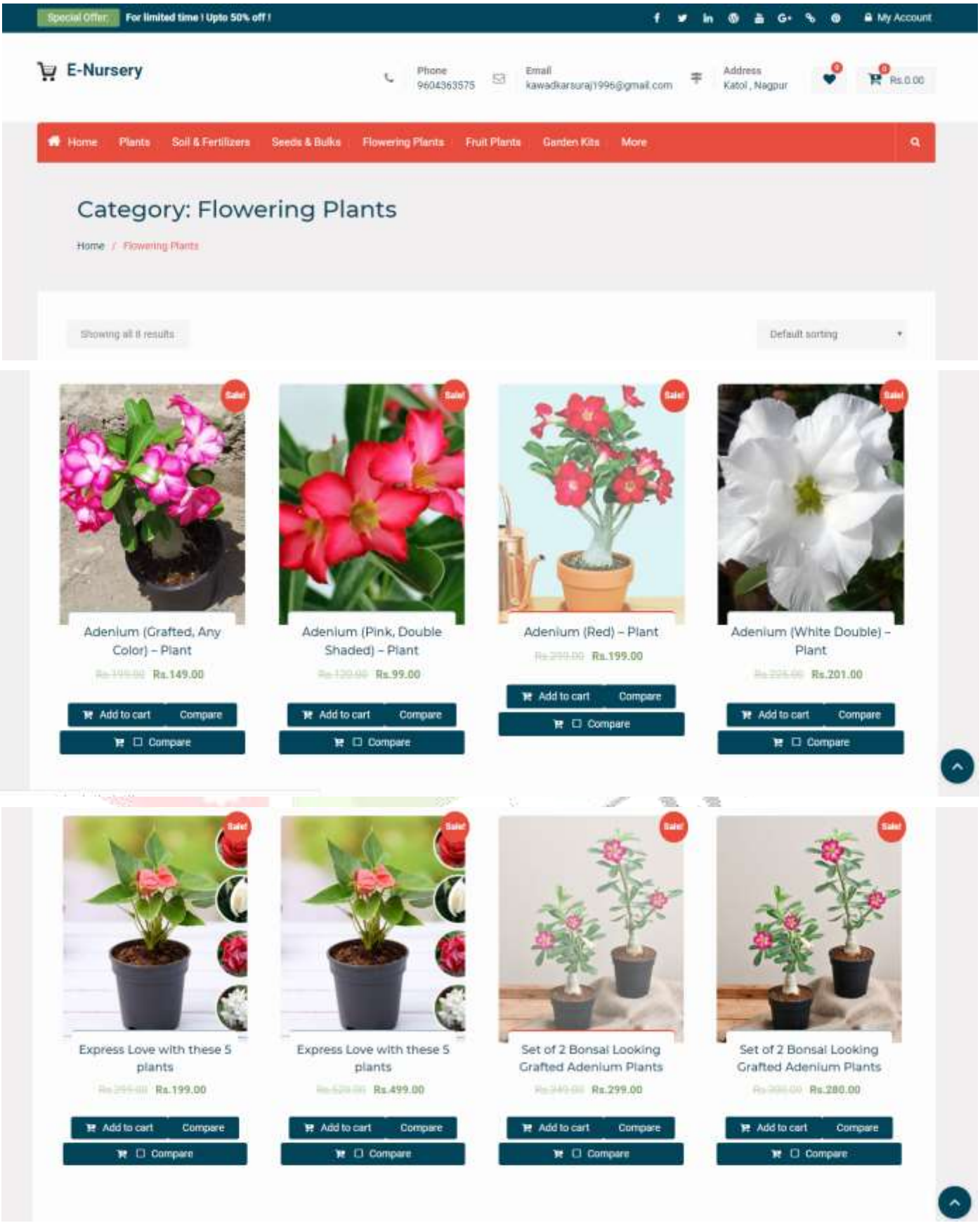

Figure: Category of flowering type of plants

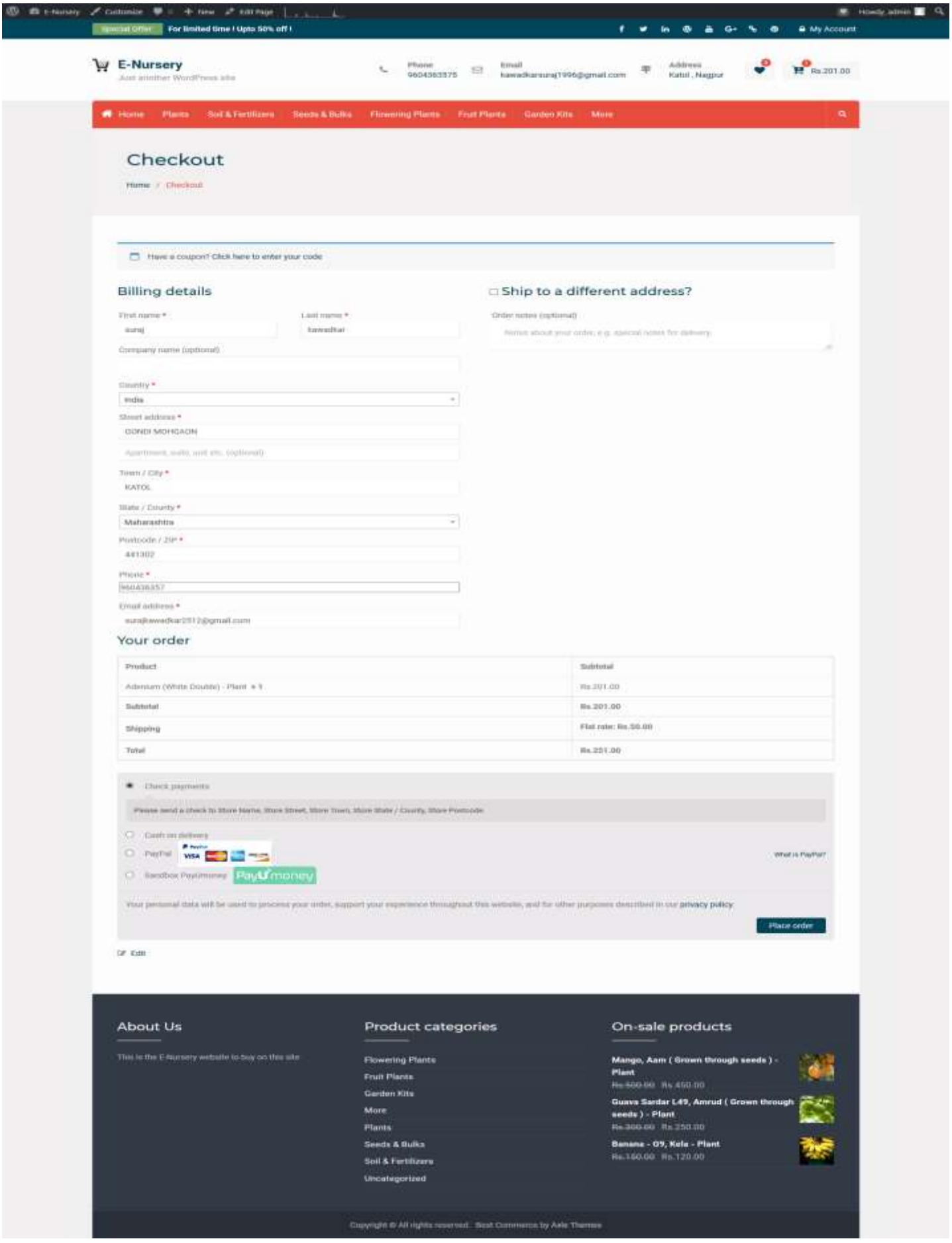

Figure: Check out page

Above snapshot is for customer to put there shipping address and to know the way of billing.

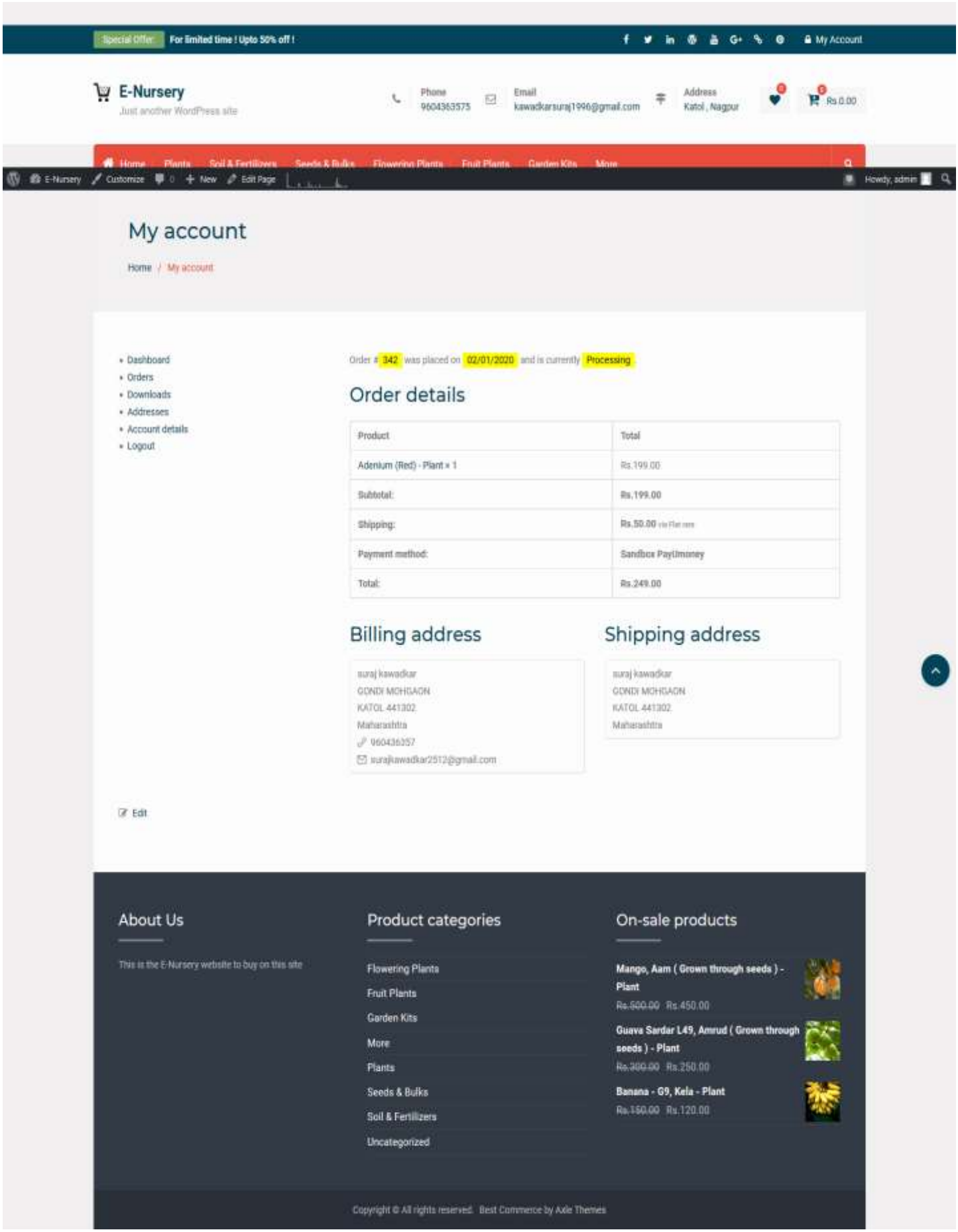

Figure: Shipping address and Billing address page

Above snapshot show the shipping address and billing address of customers.

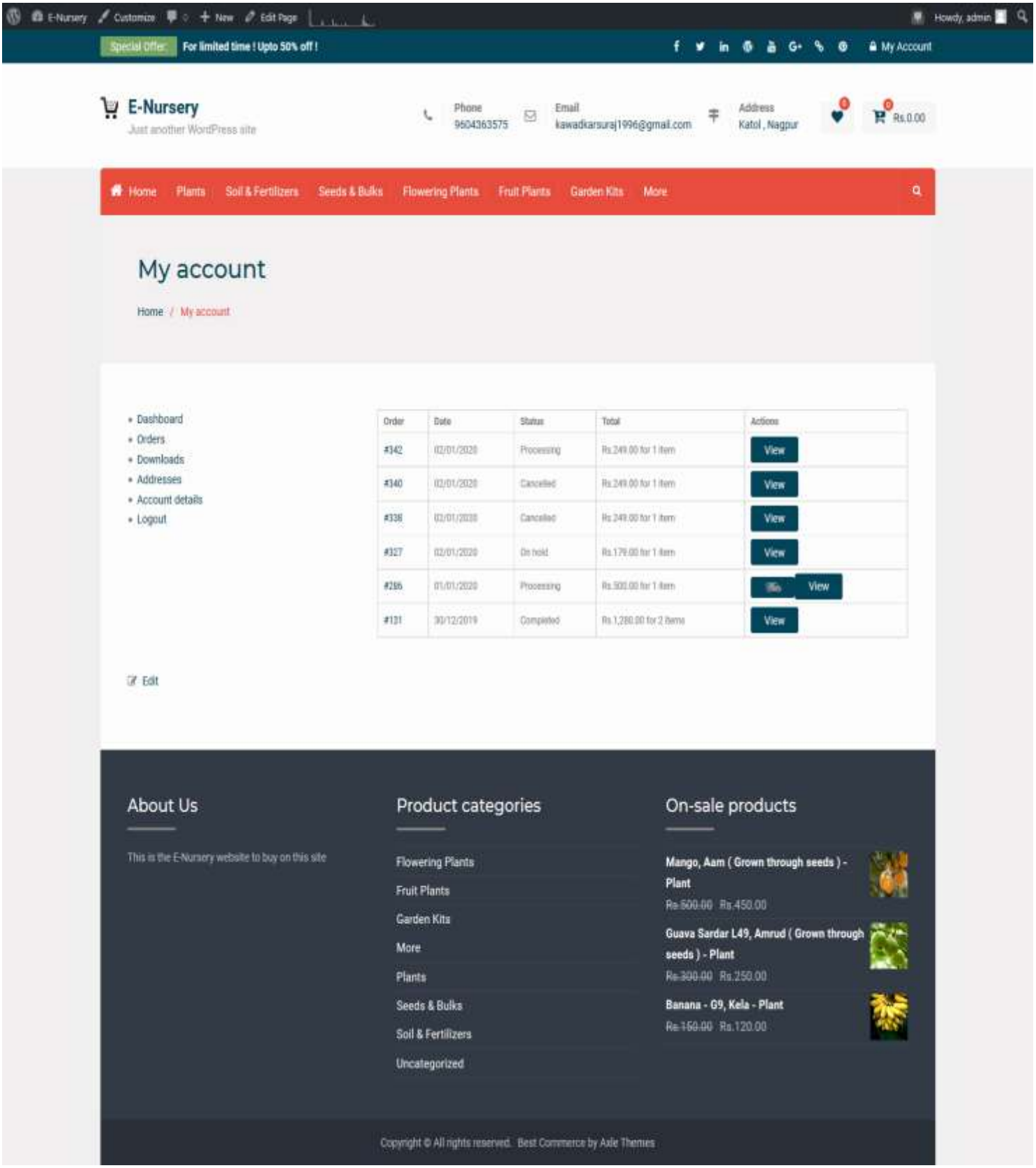

Figure: My Account page

Above snapshot show the quantity of plants are place in order.

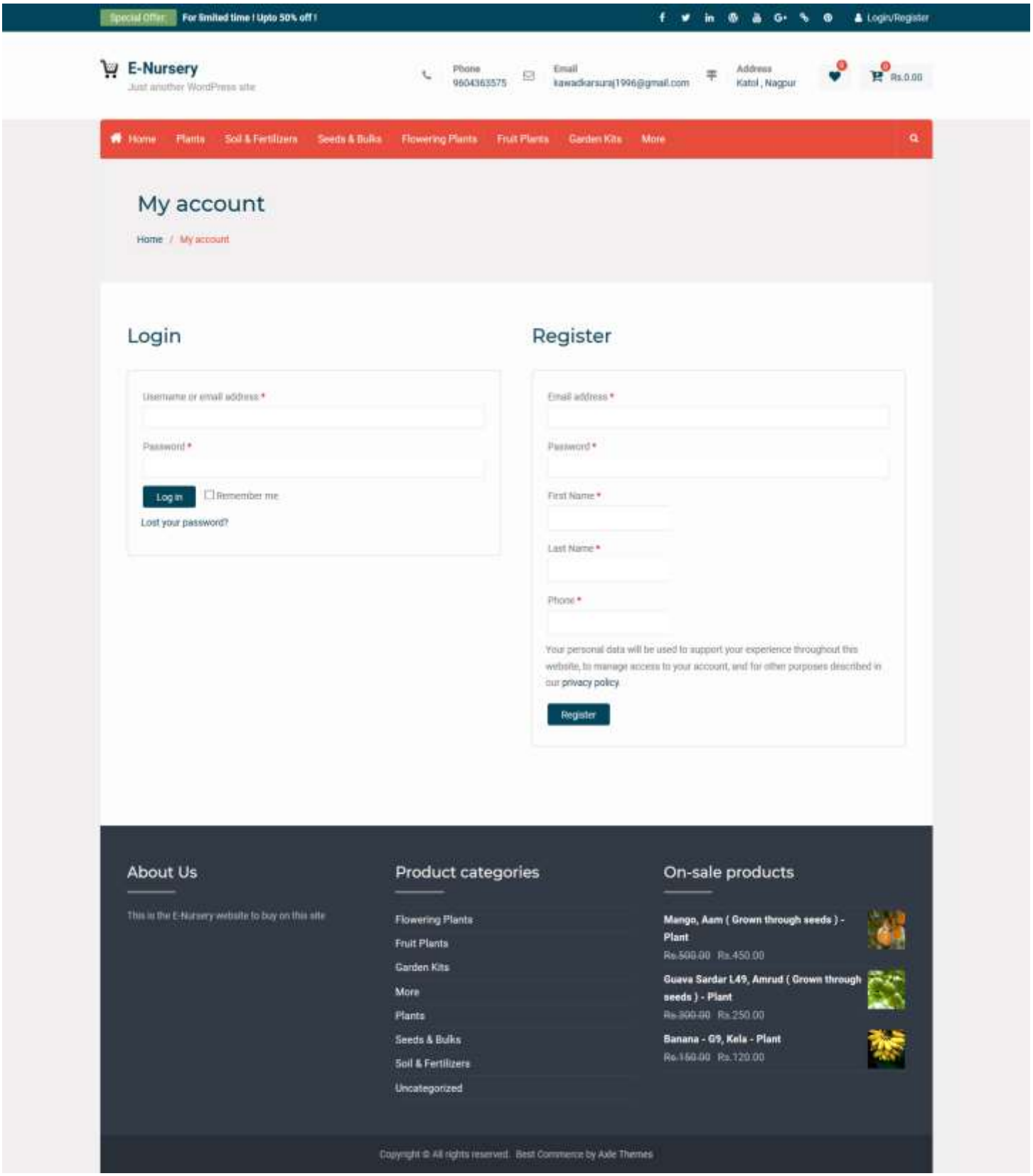

Figure: Log in / Registration page

Above snapshot is of registration page where customer fills their details.

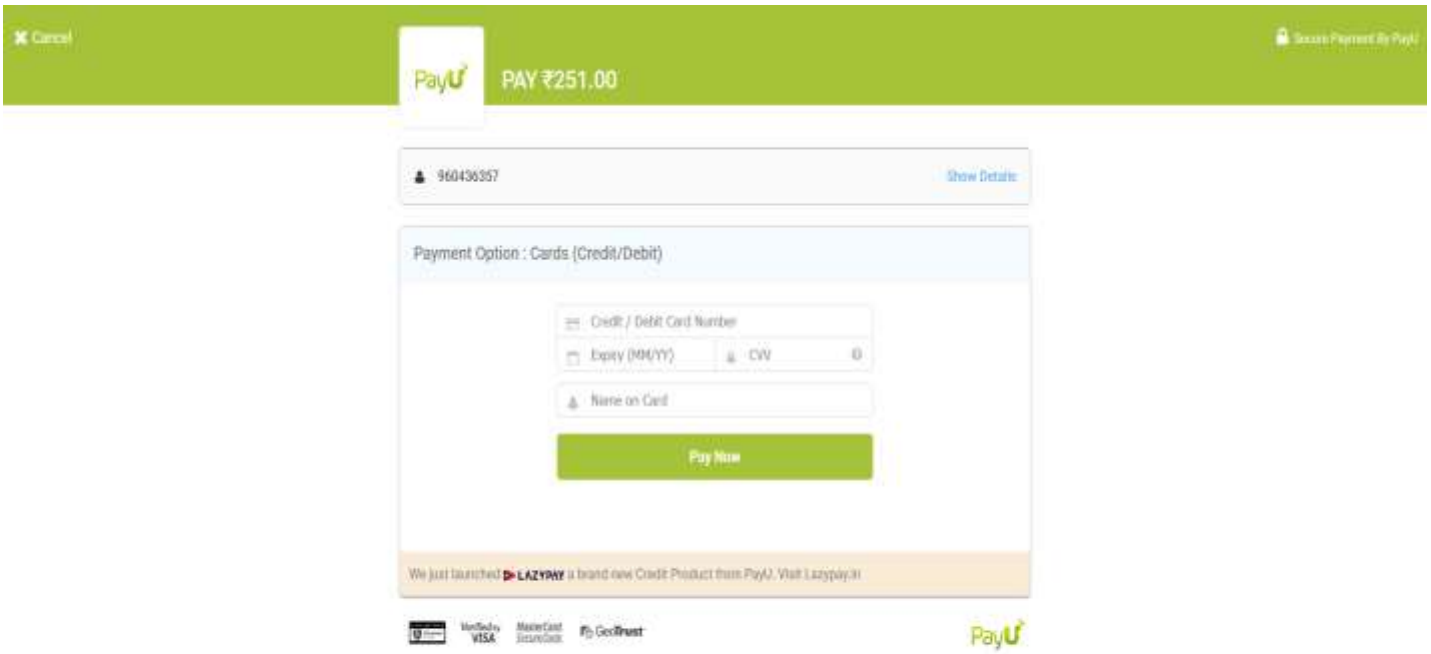

Figure: Payment page

Above snapshot show the payment status.

IX. CONCLUSION

The proposed system can guarantee to keep the records are safe and privacy which is stored in the database. It converts unstructured data into structured data and sorted format. It is very helpful, reliable and performs well functional to get an alert message and emails on the cell phone.

1. In this dissertation, we have developed an approach to allow customers to buy plants without even visiting shop.
2. Being able to buy anytime, anywhere, any place.
3. Site enables them to browse before they shop, and to research the product so they have more confidence in what they are buying.
4. Online shopping becomes more enjoyable and easier than real- world shopping.
5. It provides online payment system.
6. Customer can track their order detail and give the feedback if any problem occur during shipment.

X. FUTURE SCOPE

1. Number of shopkeeper's can register to the web portal for increase their sale.
2. This application can be used by any user to purchase the online plants and get appropriate information by viewing short summery about the plants items through videos.
3. If any changes to make customer can purchase the plants through different payment schemes like debit card, credit card, pat, phone pay, cash on delivery etc.

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