



Development of E-Commerce Web Application Using Eclipse to Implement Efficiency in Retailing Fertilizer

Shubham Kailas Deshmukh¹, Prof. Sapna Sharma²

¹Research Scholar, MCA, D. Y. Patil Institute of Master of Computer Applications and Management, Akurdi, Pune

¹shubhamdeshm37@gmail.com, Ph - 7218438401

²Project Guide, MCA, D. Y. Patil Institute of Master of Computer Applications and Management, Akurdi, Pune sapnasharma@gmail.com

Ph – 8419944172

ABSTRACT:

Uncover the Future of Retail Fertilizer: With its cutting-edge e-commerce platform, Fertilizer Shop Locator redefines agricultural accessibility. It makes purchasing easier and encourages sustainable farming methods by providing a wide selection of fertilizers and instructional materials. It seeks to advance digitalization in agriculture for a more resilient future with an emphasis on security and dependability.

Keywords—Fertilizer Shop Locator, e-commerce platform, sustainable farming, accessibility, digitization.

Introduction:

Digital innovation has emerged as a key driver of accessibility, transparency, and sustainability in the modern agriculture retail scene. An example of this technological revolution that has the potential to completely change the way people think about buying fertilizer is Fertilizer Shop Locator. Fertilizer Shop Locator, a company that is devoted to empowering farmers, gardeners, and agriculture enthusiasts, presents an e-commerce platform that simplifies transactions while providing customers with educational resources on sustainable farming techniques. The present study examines the fundamental ideas and revolutionary possibilities of Fertilizer Shop Locator. It looks at how it might streamline the purchasing procedure, promote agricultural learning, and push digitization to make agriculture more resilient in the long run. By analyzing its characteristics, advantages, and effects, this study seeks to shed light on the role Fertilizer Shop Locator plays in promoting success, growth, and sustainability in the field of agricultural retail.

Servlet and JSP Development:

Multiple OS Support: Yes, Servlets and JSPs run on any server platform that supports Java, making them platform-independent.

User Interface Quality: Medium to High, depending on the design and implementation of JSP pages. With proper HTML and CSS, you can achieve a good user interface.

Cost of Ownership: Medium, as it requires development in Java, HTML, CSS, and potentially JavaScript, but maintenance is generally easier compared to native development.

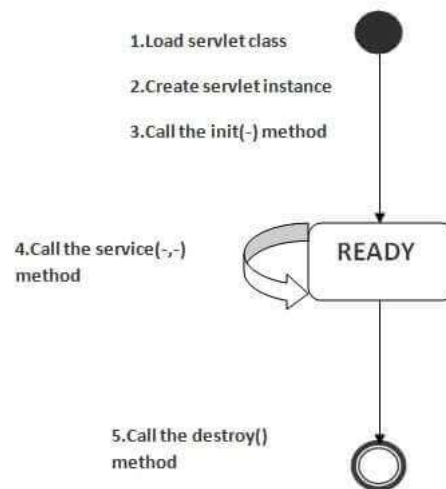
Application Update: Updates are deployed directly to the web server, without the need for approval from app stores.

Application Maintenance: Medium, as updates are easier to deploy and manage compared to native apps.

Development Language: Java for Servlets, HTML, CSS, and potentially JavaScript for JSP.

Lifecycle Management: Servlets follow a lifecycle similar to the following methods: `init()`, `service()`, `destroy()`. JSP pages are translated to Servlets and follow the same lifecycle.

Servlet Life Cycle:



Design Modules of Fertilizer Shop Locator:

1. Sign Up for the Authentication Module:

- Enables new users to register by providing the required information (email, password, and username).
- Verifies inputs and safely saves login information.

- Sign in:

- Enables login for current users.
- Maintains sessions and authenticates credentials.

2. View Order in the Order Management Module:

- Shows the user's order information, including the order ID, product, quantity, price, and status.
- Offers filtering and search functions.

Modify Order Status: This feature allows administrators to alter the status of orders, such as pending, shipped, or delivered.

- Notifies clients of changes in status.

3. Add Product - Product Management Module:

- Permits administrators to upload new items together with their specifications (name, price, category, and photos).
- Verifies inputs.

Revise the Product:

- Permits administrators to amend currently available product details.
- Verifies the updated fields.

- Remove Product:

- Permits product archiving or deletion by administrators.
- Prior to deletion, a confirmation request is included.

4. Add Category - Category Management Module:

- Permits administrators to include new product classifications.
- Verifies the inputs for the category name and description.

User Side Screen:**Registration Page:**

The registration page features a central form titled "Sign up here!!". The form includes the following fields: Name, Email, Password, and Confirm Password. Below the form, there are two buttons: "Sign Up" (in blue) and "Cancel" (in red). The page has a dark green header with a logo on the left and "Sign Up" on the right.

Login Page:

The login page features a central form titled "Login here". The form includes the following fields: Email and Password. Below the form, there are two buttons: "Login" (in red) and "Cancel" (in blue). The page has a dark green header with a logo on the left and "Login" on the right.

User cart:

The shopping cart page displays a table with the following data:

S.No	Product ID	Product Name	Quantity	Total Price	Remove
1	1	Apple	1	100	Remove
2	2	Banana	2	200	Remove
3	3	Orange	3	300	Remove
4	4	Mango	4	400	Remove
5	5	Pineapple	5	500	Remove

Below the table, there are two buttons: "Checkout" (in blue) and "Cancel" (in red).

Admin Dashboard:

The admin dashboard displays six cards with the following information:

- 9 USERS**: Represented by a group of people icon.
- 3 CATEGORIES**: Represented by a pie chart icon.
- 6 PRODUCTS**: Represented by a hand holding a box icon.
- 5 ORDER**: Represented by a smartphone icon.
- ADD CATEGORY**: Represented by a plus sign in a circle icon.
- ADD PRODUCT**: Represented by a plus sign in a circle icon.

Admin - Add Category:



Admin - Add Product:



Admin - View Products:

ID	Name	Unit Price	Unit	Quantity	Description	Status	Action
1		1000	kg	100	...	Active	Remove Update
2		1000	kg	100	...	Active	Remove Update
3		1000	kg	100	...	Active	Remove Update

Update Product:



Order Management:

ID	Item Name	Unit Price	Quantity	Order Status	Placed Date	Placed Address	Payment Status	Action
1	LITICA	1000	1	Pending	2024-06-10 10:00	...	Success	Cancel Print
2	LITICA	1000	2	Pending	2024-06-10 10:00	...	Success	Cancel Print
3	LITICA	1000	1	Pending	2024-06-10 10:00	...	Success	Cancel Print
4	LITICA	1000	2	Pending	2024-06-10 10:00	...	Success	Cancel Print
5	LITICA	1000	1	Pending	2024-06-10 10:00	...	Success	Cancel Print

Acknowledgement:

I would like to thank Mrs. Sapna Sharma for her genuine support in completing this project at DYP College of MCA, Akurdi. Her guidance and encouragement have been invaluable throughout this journey.

Conclusion:

Through the provision of educational resources, procurement inefficiencies, and accessibility, the Fertilizer Shop Locator e-commerce platform seeks to revolutionize the retail fertilizer industry. Together with a wide selection of fertilizers, instructional materials, safe transactions, and dependable delivery services, it combines technologies such as Servlet, JSP, HTML, CSS, and Bootstrap to provide a user-friendly platform. This program encourages digitalization in agriculture by providing users with information and easy access.

References:

- 1 - Horstmann, C. S., & Cornell, G. (2012). *Core Java Volume I--Fundamentals* (9th ed.). Prentice Hall.
- 2 - Schildt, H. (2019). *Java: The Complete Reference* (11th ed.). McGraw-Hill Education.
- 3 - Hall, M., & Brown, L. (2014). *Core Servlets and JSP: Volume 1: Core Technologies* (2nd ed.). Prentice Hall.
- 4 - Callaway, C. (2008). *Servlets and JavaServer Pages: The J2EE Technology Web Tier*. O'Reilly Media.
- 5 - Bauer, C., & King, G. (2015). *Java Persistence with Hibernate* (2nd ed.). Manning Publications.
- 6 - Wallace, J. (2010). *Beginning Hibernate: For Hibernate 5*. Apress.
- 7 - Dubois, P. (2013). *MySQL Cookbook* (3rd ed.). O'Reilly Media.
- 8 - Murach, M., & Syverson, J. (2012). *Murach's MySQL* (2nd ed.). Mike Murach & Associates.
- 9 - Patel, A., & Pandya, M. (2016). Developing an E-commerce Web Application using Spring Framework, Hibernate, and MySQL. *International Journal of Computer Applications*, 145(8), 12-17.
- 10 - Singh, M., & Jain, P. (2018). Design and Implementation of a Secure Online Shopping System using Java and Hibernate. *International Journal of Advanced Research in Computer Science*, 9(2), 45-51.