



Navigating the Supermarket: A Product Locator Guide

¹Ms. Shritika Waykar , ²Samruddhi Patil, ³Abhijeet Desai, ⁴Jui Kakade, ⁵Aniket Prakash Mishra

¹Professor, ²Student, ³Student, ⁴Student, ⁵Student,

¹Department of Computer Engineering

Dr. D. Y. Patil Institute of Engineering Management and Research, Akurdi, Pune-411044, India

Abstract:

In-store navigation and product discovery are both common problems. Common place modern retail establishments are up to 10,000 m² in size and carry at least 100,000 different items. At the same time, such establishments are incorporating digital signs and strategically placed public displays more and more. We now give you access to the product locator, a smart application for product data created for thoughtfully positioned interactive public displays in shopping malls. Customers can use our app to find a product's location in the store while also accessing selections for components and categories they want. We present the findings of a long-term, in-the-wild investigation of what users look for while using the Product Locator. The Supermarket Product Locator uses advanced technologies like android studio in that languages used are java, xml and many others to identify and track product locations accurately. It uses cloud based database called as firebase of product information to determine the precise location of each item in the store. Customers can then access this information via a variety of convenient interfaces, including mobile applications.

Keyword:

Smart application, Android studio, selection, product locator

INTRODUCTION

1.1 Overview

Nowadays, supermarkets are where most people get their groceries. Common supermarkets can be up to 10,000 m² in size and have at least 100,000 products available. Finding products and determining their availability for purchase at such a large mega market is a fairly common difficulty. The client can determine the location and availability of a product by using the supermarket product locator application.

1.2 Motivation

Most of the time, there is a hurry to search for and purchase things in the supermarket, which takes a lot of time for everyone present and causes billing delays. So, this application is suggested to make searching for products easier and to check product availability. By using this application, the customer can save time thanks to the location and availability information it offers.

1.3 Problem Statement

While visiting any Super mart or Mall we all face problem while finding any products in the store and it consumes our time as well. Sometimes we may find the position of the product in store but what if the product is not available or out of stock.

1.4 Objectives

To create an application that tells us about the product location in the super mart and the availability as well our smart search and optimized way finding makes locating products easy. This application also tells us about whether the product is in stock or out of stock.

LITERATURE SURVEY

No.	Paper title	Year	Author	Methodology used	Abstract
1]	Online Store Locator: An Essential Resource for Retailers in the 21st Century.	14/02/2019	1] Gonzalo Wandosell. 2] Raul Banos. 3] Maria Concepcion Parra Merono	Use of web-Mapping systems(Web GIS)	The purpose of this article is to gather evidence regarding the responsive web maps are used on merchant websites to offer location information.
2]	World's biggest retailer launches Walmart Plus and customers have their say.	07/10/2021	Art Weinstein	A poll with a QR code was distributed through email or text to fellow employees, family, and friends.	The supermarket must make sure that its customers receive secure products and that its employees work in a safe atmosphere.
3]	Application for Searching Product nearby location.	05/05/2017	1]S.N. Siddhu, 2]B.Manikanta.	To achieve this we have used Mongo DB and Perl for easy connection of database.	This application aims for searching the product in nearby locations using route maps.
4]	Store Product Aisle Locator System.	19/02/2015	1]Cheryl Bozek.	This System is achieved by radio-frequency identification tags for specifying each product.	A system and method for assisting a shopkeeper in locating a product using aisle number.

5]	Design and Evaluation of a Product Finder in a Super Market Scenario.	26/09/2013	1] Ming Li. 2]Katrin Arning.	Visual Tracking through image recognition to detect targets.	This paper demonstrates how Product Finder enhances consumers' ability to identify products applying Augmented Reality.
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RESEARCH METHODOLOGY

Define Requirements: Clearly understand the objectives and requirements of the product locator system. Consider factors such as store layout, product categorization, user interface, and integration with existing systems.

Store Mapping: Create a detailed map of the super-mart, including rack and product categories. Ensure accuracy and update it regularly to reflect any changes in the store layout.

Product Categorization: Develop a comprehensive categorization system for products based on their type, brand, or any other relevant criteria. Assign unique rack number to each product.

Data Collection: Gather data about products, their categories, and their locations in the super-mart. This information can be obtained through manual data entry.

Database Management: Set up a database to store the collected data. Here we use database called as firebase database. This database should be easily searchable and capable of handling a large number of products and their locations.

User interface : Design an easy-to-use and efficient product locator interface. Consider using mobile apps, touch screens, or kiosks placed strategically throughout the super-mart for easy access.

Ability to Search: Develop a searching feature that enables customers to locate items on the basis of their name, category, or barcode. The system should produce precise data, indicating the particular lane and rack location of the goods.

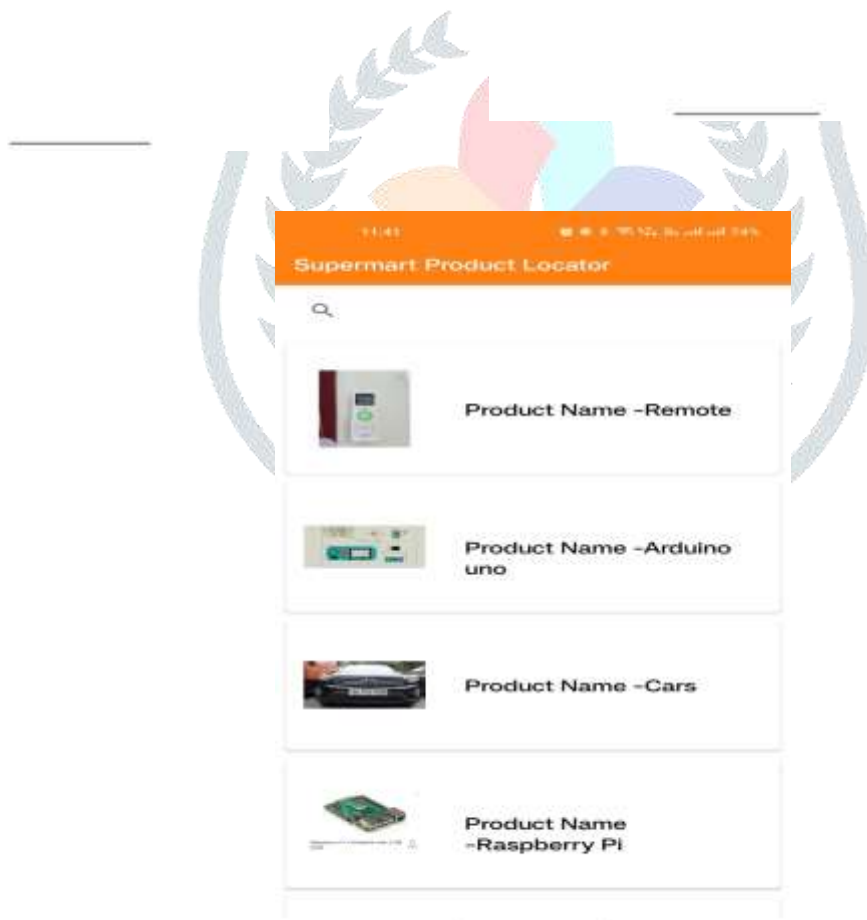
Testing and Refinement: Thoroughly test the product locator system to ensure its accuracy, reliability, and usability. Gather feedback from users and make necessary refinements to improve the system's performance.

Maintenance and Updates: Regularly maintain the system by updating the database with any changes in product locations, adding new products, and addressing any technical issues.

RESULTS AND DISCUSSION

Every online store's product locator is essential. If you keep the right products in stock, you can avoid shortages, preserve customer satisfaction, and make your business profitable. By finding the exact location of the product and providing you with an availability check without the need for manual labour, a powerful product locator will handle much of this job for you. For any online supermarket, this is a very economical strategy.

APP INTEREFACE



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