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**SYNOPSYS**

**ON**

**ONLINE SHOPPING CART**

SUBMITTED IN PARTIAL FILFILLMENT OF THE REQUIRENMENT FOR PROJECT SUBMISSION IN THE DEPARTMENT OF

COMPUTER SCIENCE AND ENGINEERING

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**INTRODUCTION**

At the very core of an online storefront is the shopping cart system that enables customers to find and purchase products and services.

The system allows customers to acquire a list of items for purchase by placing items into a virtual cart. At the checkout the software will calculate a total of the invoice with any applicable taxes, including shipping and handling.

The online shopping cart is basically the software that is used in the e- commerce transaction. The software helps Online Shopping Customers to collect a number of items for purchase, described as “placing items in the shopping cart” or “adding to cart”. Hence upon checkout, the software typically calculates a total for the order, as well as shipping and handling (i.e. postage and packing) costs and the taxes associated with them, if any. The two main classifications of the Online Shopping Cart are: Licensed and Hosted Cart.

The [**Licensed Shopping Cart**](http://www.avactis.com/self-managed-vs-hosted-e-commerce-carts/) is actually the software that can be installed on any of the servers. This is largely used by the people as they own the license after they purchase it. A more advanced merchant generally enjoys freedom associated with a licensed cart, which can often lend itself to a better user experience and may be less expensive over all.  
The [**Hosted Shopping Cart**](http://www.avactis.com/self-managed-vs-hosted-e-commerce-carts/) model is a form of shopping cart software as a Service (SaaS)  
In this , the merchant pays a recurring monthly fee for the access to the software. Although, he cannot choose the web server’s configuration or modify or customize the shopping cart software. These carts are often easy for Entrepreneurs, Since the Shopping Cart makes most decisions on the owner’s behalf and often provides a simple interface for non-technical shop-owners.

Currently there are three different types of shopping cart systems that are built to better suit the needs of ecommerce stores; ordering systems, online storefront builder systems and specialized systems. An ordering shopping system is the most basic that makes it possible to select and purchase online. For larger store offerings, a Storefront builder shopping cart system combines all of the features of an order system combined with contact management system (CMS). This allows you a greater level of control over your store content. However, if your ecommerce store offers business to business (b2b) solutions then a specialized ecommerce shopping system would likely be the best fit.

Such shopping systems normally include a database, a storefront and an administrative area. The database stores customer data, order information, product details, etc. A storefront displays this information while an administration area allows a business to manage the ecommerce store. Storefronts should include a store catalog that is presented usefully and is pleasing for customers. Good administrative functionality should be easy to navigate, manage modules, assign options, and flexible to manage multiple shipping needs.

Many online ecommerce store builders will offer either a licensed or hosted shopping cart system. A licensed shopping cart system can be downloaded and installed on a web server often associate with a onetime fee. Since the merchant will own the license the system can be hosted on any web server. A hosted system can never be downloaded but is hosted instead through a service provider and requires a recurring fee or nominal percentage of sales.

A good shopping cart system enables both the ecommerce store and customer to participate in business with each other. Without it, ecommerce would not be possible and once you have set up the right shopping cart system, then you can [make money online](http://www.makemoneyonlinez.com/) without too much fuss.

Shopping cart software can be generally categorized into three [types of E-commerce](https://en.wikipedia.org/wiki/Types_of_E-commerce) software

* **Open source software**: The software is released under an [open source](https://en.wikipedia.org/wiki/Open_source) licence and is very often free of charge. The merchant has to host the software with a [Web hosting service](https://en.wikipedia.org/wiki/Web_hosting_service). It allows users to access and modify the source code of the entire online store.
* **Licensed software**: The software is downloaded and then installed on a [Webserver](https://en.wikipedia.org/wiki/Webserver). This is most often associated with a one-time fee, the main advantages of this option are that the merchant owns a license and therefore can host it on any web server that meets the server requirements.
* **Hosted service**: The software is never downloaded, but rather is provided by a [hosted service provider](https://en.wikipedia.org/wiki/Hosted_service_provider) and is generally paid for on a monthly or annual basis; also known as the [application service provider](https://en.wikipedia.org/wiki/Application_service_provider) (ASP) software model. Some of these services also charge a percentage of sales in addition to the monthly fee. This model often has predefined templates that a user can choose from to customize their look and feel. Predefined templates limit how much users can modify or customize the software with the advantage of having the vendor continuously keep the software up to date for [security patch](https://en.wikipedia.org/wiki/Security_patch)es as well as adding new features.

**OBJECTIVE**

Ecommerce shopping carts are like engines that keep online stores running smoothly. You'll be taking your customers along for the ride, so you'll want to choose an ecommerce shopping cart that not only meets your needs, but theirs as well. While your unique goals and budget will determine which ecommerce shopping cart is right for your online store, certain ecommerce shopping cart features can help you boost customer confidence and encourage repeat sales.

**1: Payment Options**  
Most visitors to online stores prefer to pay by credit card. If you want to use your ecommerce shopping cart software to process credit card transactions with a real-time payment gateway, you'll have to open a merchant account.

Although the majority of shoppers at online stores will make a credit card transaction, choosing an ecommerce shopping cart that also allows you to accept alternative payments will please customers who remain resistant to providing such information online. Offering options such as PayPal®, Google® Checkout, checks, and/or money orders allows more people to feel comfortable checking out on your site.

**2: Site Search & Browse**  
Visitors to online stores have a need for speed - and it starts with time-saving search. Consumers expect online stores to allow them to search for a product and quickly find the product they want. Customers also navigate via categories, along with browsing by price, category and brand distinctions. If your ecommerce shopping cart does not include a search feature for your site, your visitor may simply decide to look elsewhere.

**3: Product Reviews**  
No matter how well online stores promote their own products, reviews by other customers will have a greater impact. In fact, 63% of consumers indicate that they are more likely to purchase from a site if it has product ratings and reviews, according to a CompUSA® and iPerceptions® study. Choose an ecommerce shopping cart that allows for product ratings and reviews - and let "word of mouth" work for you.

**4: Wish List/Registry**  
Customers at online stores often buy gifts for special occasions, which is why many ecommerce shopping carts feature a registry option that makes the process easier. Also, so-called "wish lists" allow customers to save items at online stores and return at a later date to purchase those items. In general, when your ecommerce shopping cart allows your customers to manage their items the way they want, the result is higher satisfaction.

**5: Real-Time Inventory**  
It's a common complaint from those who frequent online stores -- a customer goes through a lengthy process of placing an order, only to find out later that the item purchased wasn't really in stock. Ecommerce shopping carts should allow for real-time inventory management, which ensures that what customers see on their screen is what's actually available for delivery to their doorstep.

**6: Express Checkout**  
The checkout process at many online stores can be as frustrating -- if not more so -- than standing in a long checkout line at a brick-and-mortar store. When visitors are ready to buy, your ecommerce shopping cart must make it as simple as possible. Some ecommerce shopping carts offer registered users an express checkout option, which pulls up their stored payment and billing info when they log in.

**7: Order Tracking**  
An ecommerce shopping cart can help you keep customers informed every step of the way - even after their order is placed. Automated order confirmation emails and shipping notification emails build customer's confidence in their purchase and in your brand. If a customer registers, they should be able to track their order by logging into an account created upon registration.

**8: Special Offers**  
Looking for a way to woo new customers - or existing customers you haven't seen in a while? Ecommerce shopping carts can help you promote special offers like order discounts, coupon codes, free shipping and gift cards. These offers serve a dual purpose -they encourage customers to take advantage of a "good deal" while also helping you compete in today's competitive online marketplace.

**9: Website Security**  
Choose an ecommerce shopping cart with built-in SSL data encryption for website security. When online stores display SSL Certificate seals on their home pages, customers feel confident that their personal information will be protected and are more likely to complete a purchase.

Ecommerce shopping carts are key to the success of online stores. When choosing an ecommerce shopping cart for your online business, keep customer satisfaction in mind and you'll be rewarded with customer loyalty.

* Display goods and services in the store
* Automate  every sales effectively without mixing product prizes
* Store product detail using a secure database.

**HARDWARE AND SOFTWARE REQUIREMENT**

Computer: IBM-compatible Pentium PC or higher (either 32 bit or 64 bit is fine)

No Mac OS or Linux support

Memory: Same RAM requirements as the operating system

Hard disk space: Typically 100 MB of free space. The downloadable installer is roughly 50 MB.

Monitor: Minimum SVGA (800x600) with 256 colors (1024x768 with 16-bit color or higher recommended)

CD-ROM drive: A CD-ROM or DVD drive is required to install the software from the CD. Alternatively, the installer can be downloaded from our website and installed without an optical drive.

Internet connection: An Internet connection is required if you want to use the product's optional Internet-enabled features.

SOFTWARE

* Operating System :  Unix, Linux, Mac, Windows etc..
* Development tool : java, java servelet,php
* Data Base : MySQL
* Front end : Html, Css(stylesheet)

**Methodology of online shopping cart**

This study examines the user’s checkout experience. It specifically looks at how sites can improve the shopping cart and checkout flow to ensure fewer users abandon their purchase. This study includes areas such the shopping cart, users privacy concerns, form field usability, gifting features, the flow and layout of checkout pages, 3rd party payments, validation errors, etc.

This study contains the research results from 7 years worth of large-scale e-commerce testing of only checkout flows by the Baymard Institute. More specifically, it’s based on:

* 2 rounds of 1:1 moderated qualitative usability testing (in lab) with a total of 272 test subject/site sessions following the “Think Aloud” protocol.
* 1 large-scale eye-tracking study with 32 participants.
* 2 rounds of checkout benchmarking of 850+ checkout steps.
* 5 quantitative studies with a total of 7,023 participants.

Below the methodology for each of the research methods is described in detail.

To purchase access to the Checkout Usability Report & Benchmark go to: [baymard.com/checkout-usability](https://baymard.com/checkout-usability)

## Usability Testing Methodology

One part of this research is based on two rounds of large-scale usability testing of 25 major e-commerce sites, with a total of 272 test subject/site sessions following the “Think Aloud” protocol. The usability study tasked real users completing the purchase for multiple different types of products – all the way from “shopping cart” to “completed sale”.

The sites tested in the two rounds of 1:1 qualitative think aloud test sessions were:

* Round 1: Wayfair, ASOS, Walmart, Amazon, American Eagle Outfitters, Crate&Barrel, Overstock, and Home Depot.
* Round 2: 1-800-Flowers, AllPosters, American Apparel, Amnesty Shop, Apple, HobbyTron, Levi’s, NewEgg, Nordstrom, Oakley, Perfume.com, PetSmart, Thomann, and Zappos.

Each test subject tested 5 - 8 checkouts, depending on the type of task and how fast they were. The duration of each subject’s test session was ~ 1 hour long, and the subjects were allowed breaks between each site tested.

During the test sessions the subjects experienced 2,700+ usability issues specifically related to the checkout flow and design. All of these findings have been analyzed and distilled into 134 specific usability guidelines on how to design and structure the best possible performing checkout flow.

Since there will always be contextual site differences, the aim of this study is not to arrive at statistical conclusions of whether 61% or 62.3% of your users will encounter a specific issue. The aim is rather to examine the full breadth of the user’s checkout behavior, and present the issues which are most likely to cause checkout abandonments. And as importantly, to present the solutions and checkout design patterns that during testing were verified to cause a high performing checkout flow.

## Quantitative Studies

The quantitative study component is in the form a 5 quantitative studies or tests. The studies each sought answers on:

* Reasons for checkout abandonments, privacy concerns and testing CAPTCHA error rates (3 studies, 3,520 participants, US participants recruited to match approximate US internet demographics, recruited and incentivized through Google Consumer Insights and Survey Monkey Audience’s),
* Testing site seal and SLL logo trust levels (2,510 participants, US participants recruited to match approximate US internet demographics, recruited and incentivized through Google Consumer Insights)
* A/B Testing two different versions of ‘free shipping tiers’ designs (993 participants split into two groups, US participants recruited to match approximate US internet demographics, recruited and incentivized through Google Consumer Insights).

Besides these 4 main sources, select test observations and sessions from our other usability studies are included, primarily from Baymard’s [Mobile E-Commerce Usability](https://baymard.com/research/mcommerce-usability) study.

## Legal

Baymard Institute provide this information “as is”. It is based on the reviewers subjective judgement of each site at the time of testing and in relation to the documented guidelines. Baymard Institute can’t be held responsible for any kind of usage or correctness of the provided information.

The screenshots used may contain images and artwork that are both copyright and trademark protected by their respective owners. Baymard Institute does not claim to have ownership of the artwork that might be featured within these screenshots, and solely capture and store the website screenshots in order to provide constructive review and feedback within the topic of web design and web usability.

 1. Deciding the subject of Research Initially we had a lot of ideas for survey-based project. Then it was mutually decided that the survey sample should be huge. So we decided to take a subject in which we can get wide range of sample size. In order to face 21st century internet prepares people of different age groups to adapt to social and technological changes that are taking place at an unprecedented rate. In this context internet especially is a resource for continued education for the acquisition of new knowledge and skills, for gaining information through media. Online shopping is an example of internet

2. Framing appropriate Questionnaires The initial steps of our project was to frame a less complicated questionnaire so that our sample have a clear idea what is being required from them and save their precious time. The questionnaire was constructed to mirror many of the queries that have been asked in previous studies of online [Grab your reader’s attention with a great quote from the document or use this space to emphasize a key point. To place this text box anywhere on the page, just drag it.]

Customer Management

Cart Management

Payment Management

Category Management

Order Management

**DFD OF ONLINE SHOPPING CART**

**REFERENCES**

* Wikipedia
* Some of the research studies
* [www.ecwid.com/**Shopping**\_**Cart**](https://www.google.com/aclk?sa=l&ai=DChcSEwiP1Y7K4-TcAhUGFI8KHcbYB30YABADGgJzYg&sig=AOD64_0S7kRF3KoPIKR7_V79NMRyZ-GfMg&adurl=&q=&nb=1&res_url=https%3A%2F%2Fwww.zapmeta.co.in%2Fws%3Fq%3Dwebsite%2520shopping%2520carts%26asid%3Din_gc5_29%26mt%3Db%26nw%3Ds%26de%3Dc%26ap%3D1t1&rurl=https%3A%2F%2Fwww.google.com%2F&nm=31&bg=!eXqlemJES4HnOEcktjACAAAA01IAAACimQEyHu0pP6XOd1qHY_53t5TEoVRaWn0xBELKSBQIrErFp3HirCluKdN1cSbcMVzFqiNINAurBLxAzFvV_sFUOHUD8YL7mMSu7ccqAcICs7EQaqfOR9tKEQJwr4Re98uh0ZxIYZfPkKNAeOFGvm93kE9mzjFLG1CfVq7VK6anCG6YD4c1U9WA_1mleXg_cnX1_9Xr6bh7pADJnQC8G5tKu2aTuvayG76vFfuBV6B8qo5ZcbfsJm4Wg3tbwHkecQ-eDqjowdE3PldRKGMwfK5em9sabu5nOc6KXru_aU1oOTFFeTSK3-f4c5k9Kqi-QdFaew08A6tAno42uy9xcWvhjxkjwxX5sOJcNjAGX4NIJPh8Ubc4h1NfE4R_42wTBKX1T9eevLMO5dPO-Azik64QrniR7HIN)
* www.shopify.com/website/shopping-cart

**GROUP MEMBER DETAILS**

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