



Empowering Your Business

A guide to doing business on the web

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Introduction

Its amazing to think that just over 100 years ago, man had never flown but within just 66 years of that momentous December afternoon we had successfully sent men to the moon and back safely. Computers and Information Technology have advanced at a similar phenomenal rate.

The biggest driver behind mass adoption of the desktop computer has been the arrival of the World Wide Web. Even though the 'Web' has been around in theory since 1989, it has only really taken off globally since the mid 90's. Like all technologies the web has grown and developed over the past 15 years and the way we use it has also changed and improved.

More and more 'real world' activities and processes have moved to the 'virtual world' of the Internet. Within a very short time we have made the very successful and irreversible shift to this virtual world. People use the Internet to stay in touch with friends, buy music, book holidays, do their banking and educate themselves to mention but a few uses. The Internet has proven to be a very popular and stable platform for business to flourish.

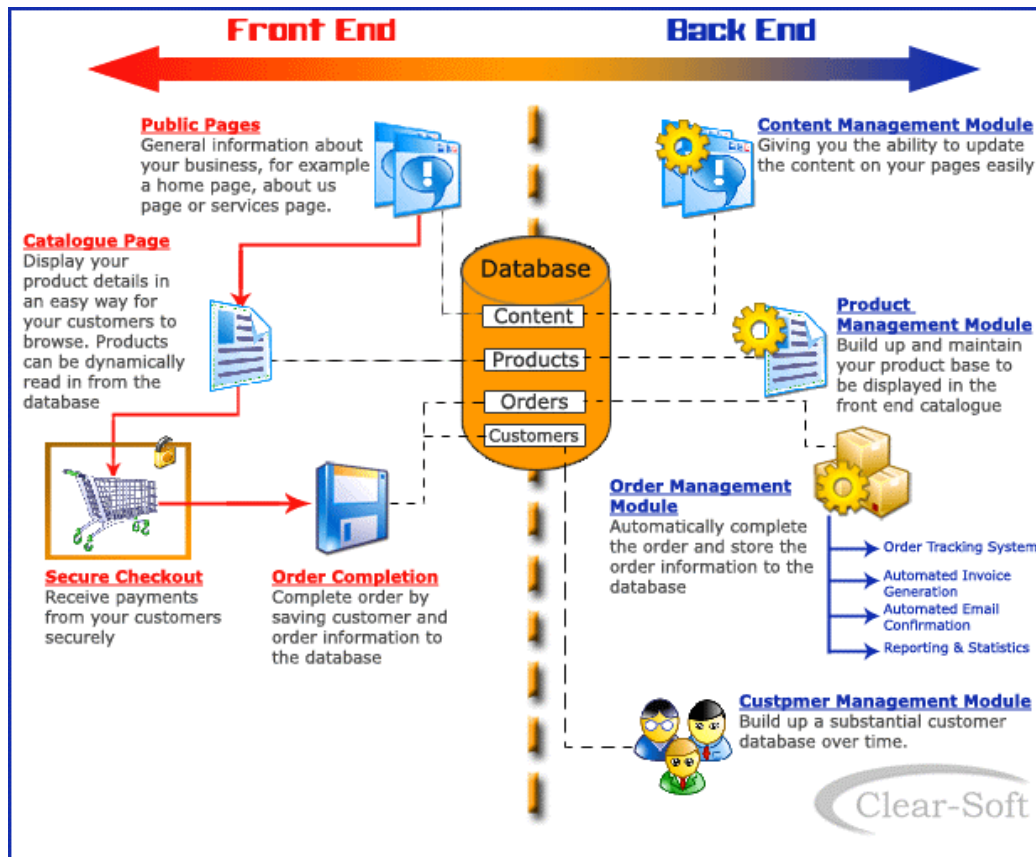
The advantages of conducting business on the Internet are obvious: -

- **Cost effective** – Setting up even the most complex of online business will be a tiny fraction of buying or renting a premises and the maintenance associated with it.
- **Differentiation in the market** – Having a well designed and attractive but robust web application will make you stand out from your competitors
- **24 / 7 / 365 availability** – Having an online store gives your customer access to browse and purchase your products and services 24 hours a day.
- **Eliminate middlemen** – Eliminate the need to the man in the middle to take his cut by selling and dealing directly with your end customer.
- **Build better customer relationships** – Having captured customer details when the order was made, we can retain this information and make it work for us in the future to enhance relationships.
- **Workflow automation** – A smart Clear-Soft custom built solution can reduce the manual nature of order processing. For example the system can trigger invoice and receipt generation and send them to the customer.
- **Sharing of information** – By utilising a well-designed database in the centre of the system, you can share critical information with different stakeholders. Moreover you can show different parts of the same information to selected users. So for example you might want to share order delivery information with your customer, or monthly sales information with your accounts department.
- **Extended marketplace** – With an e-Commerce site, you can potentially sell your products or services to over 1.2 billion internet users around the world.

These are but a few of the advantages of doing business on the web. The rest of the manual will explore the components of an e-Commerce system and how each can be used to benefit the business.

System Overview

Below is a diagram of a typical custom fit e-Commerce solution from Clear-Soft.



As you can see, there are two distinctive parts to this diagram. The public section to the left and the administrative back end system to the right. The common shared component is the database, which sits in the middle of the diagram. This is a central store for all critical data in the system.

The left hand side of the diagram is how the customer will interact with the system. These are the pages that the customer will see, the process of adding products to their cart and paying for them in a secure manner. Each of these modules will be described in detail below.

Public Pages

Apart from your product or service catalogue, you will most likely need other pages in the public section of your site. A good introduction to your business on your homepage could help strengthen customer confidence in what you do. You could have a separate page to describe the products or services that you offer or your company history. Sharing contact details with site visitors is also a very important feature of any website.

Catalogue Page

From a customer's perspective, the most important part of the website will be your catalogue of products or services. Displaying this information in as clear and attractive format as possible will make a good impression on visitors. Customers should be able to search the catalogue easily and add items to their cart easily.

Secure Checkout

Having browsed your catalogue and after adding some items to their cart, the customer should be directed to pay for the items securely. All major credit cards will be accepted and the payment process will be quick.

Order Completion

After payment is received, we can complete the order and the customer should be redirected back to your e-shop. At this stage the order details will be logged to the database and from a customer point of view, the order has been completed.

So at this stage we have shown how the customer will interact with your site. They can visit the site and see what you're about. They can have a look at your products catalogue and add items to their basket. They can then proceed to pay for those products and complete the order.

We will now look at the backend system. The part of the system that you, the online merchant, will use to manage the system and progress your business.

Content Management Module

The content management module will allow you to update certain parts of the public section of the site. So for example you might require the ability to advertise new products or special offers on your homepage. You might need to advertise for staff or update your contact details.

We can give you the tools to manage the content on your site easily and without the need for knowledge of HTML or web development skills.

Product Management Module

We've already mentioned that the most important section of your e-shop will be your products or services catalogue. This is your chance to show off your products or services in a good light.

We will give you the tools to build up and maintain a products database. You can describe the products, enter their attributes, perhaps upload an image.

This product database can then be read in dynamically by the catalogue page that the customer will see. This architecture will allow you to share information on your new products with customers quickly.

Because the information is stored in a central database, it can be queried and searched easily by potential customers so for example if you sell shoes, rather than seeing hundreds of shoes, customers can search for loafers or black stiletto boots to narrow down their search.

Order Management Module

This module will be the most important from a merchant viewpoint. Managing and progressing each order as efficiently as possible will make a big difference to your business.

Once the order is received, the system can generate an automatic email for the customer. The email can contain an invoice or receipt and details on the delivery. This keeps the customer in the loop and builds the customer relationship without any work from you the merchant as yet.

Because each order will have a separate entry in the database the information can be shared with a number of parties. For example we can create a portal in the public section for your customers to log in to see the progress of their delivery.

Over time you can obtain statistics from the data in your orders table. So for example you can see which product or service sells the best. You can see what time of the year is the busiest or quietest. You can compare sales on a weekly, monthly or yearly basis to gauge your progress. You can see a geographical spread of your customers and other different traits that make them up.

A well devised order management module can automate many of your business processes and free your time up to carry out more rewarding activities. So whether you receive an order from Cork at midday or from Hong Kong at midnight, your system will handle both orders the same and make your life easier.

Customer Management Module

A crucial part of any business is customer relationship and management. Over time you can build up a substantial customer database which will enable you to build a profile of the customer and this can help you make strategic decisions in the future.

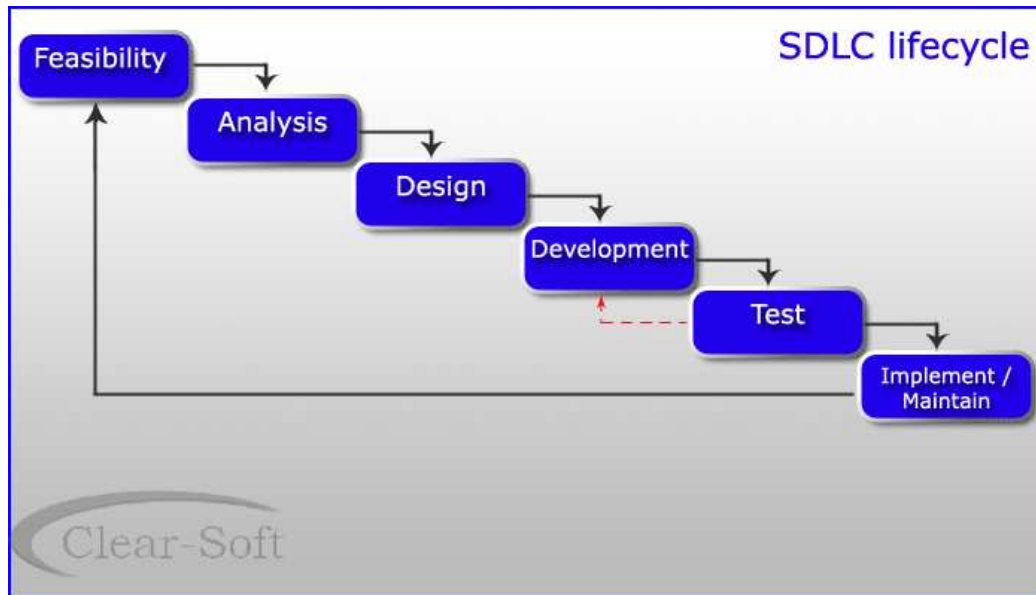
Maintaining customer information in your database will make it easier for you to query customers and reach out to them with specifically targeted promotions or offers based on their profile. So for example if you sell sporting goods, you might wish to send out emails to those customers in your database over the age of 50 with details of your new automatic golf trolleys.

Likewise coming up to a tennis tournament, you could target those on your database who you know to have purchased tennis equipment from you in the past.

The ability to reach out to your customers in a personalised way will make a massive difference to your customer relationships and over the years this database will develop into a crucial tool which can help you make strategic decisions.

Building Your Solution

At Clear-Soft we employ the Software Development Life Cycle (SDLC) for all of our major projects. This is a tried and trusted industry standard designed to keep the end user involved with all stages. Below is a diagram reflecting the SDLC as a waterfall model.



For us to build your solution, first we must understand your needs and expectations of the system. We will study the *feasibility* of the project, identify the risks and mitigants. Once the feasibility is established, we will look at beginning the analysis & design phase.

The *analysis phase* & the *design phase* are very closely related. *Analysis* is where the requirements are gathered and clarified. Ideally we would look to arrange a face-to-face meeting where we can tease out the requirements.

The *design* phase is possibly the most important part of the project. Here we will plot the logical structure of your application, decide on the technologies to be used, design the database and in general visualise the system. After this process we should be able to finalise the total cost and estimate how long development will take.

Having agreed on the price and duration of the project, we will now look to build the system that we have designed in the previous page. Customers will be kept in the loop throughout the *development phase* and depending on the type of project we will make regular prototype deliverables for you to play with and get a good feel for. Your input will be taken on board and implemented in future prototypes and the final solution.

Once development is complete, we will now look to kick off the *testing phase*. This is another crucial stage in the project. Testing the software will give us confidence in the final solution. We will write up full system test plans and test every scenario that we can think of happening in the system. The testing process will most likely uncover a few bugs in the system. If so, we will then revert back to the *development phase* to fix the bugs. We will continue the testing / development cycle until we are confident of eliminating all the bugs. Capturing bugs at this stage is far more desirable than later on in the project.

After developing and testing the solution, we should have enough confidence in the system to promote it to the production environment and the end users. *Implementation* will be thoroughly planned and carefully executed. We will register your domain name for you and submit your site to all the major search engines so that your customers can find you easier. Initially we will monitor the system closely for the first week or so. Gathering statistics, gauging performance and observing the system in general. This will again serve to give us more confidence in the final solution.

Maintenance is another important aspect to the project life cycle. Each system has its own facets and features that will need maintaining. A well maintained system will be a fast, efficient & robust solution that should stand the test of time.

Conclusion

So we have covered a number of points in this document. Firstly the evolution of web applications for business and the advantages of carrying out business on the Internet. Next we covered the different modules of a typical e-Commerce web application. Finally we explained how the project will be ran according to the SDLC life cycle.

It's very difficult to give a generic description of a custom fit e-Commerce solution. The aim of this manual is to share information on the individual modules of the system and how they come together to provide a powerful business tool that can act as the front door to your shop, display your products or services, take payment, and manage information effectively throughout your business. The manual also describes how your system will be created and how the project will be run.

A couple of questions frequently asked of us are 'How much will the custom fit solution cost?' and 'How long will the development take?'. The simple answer to both of these questions is that we don't know until we identify your requirements and expectations from the system. The beauty of the SDLC development life cycle is that the customer is kept in the loop throughout all stages. Customer input is crucial to the success of any software project.

Should you require more information on our custom fit solutions, call us or send an email to info@clear-soft.com.