NIFT MUMBAI

MOS: APP TO CUSTOMISE YOUR SHIRT

GRADUATION PROJECT

Siddhesh Gautam (M/BFT/10/26)

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Siddhesh Gautam

(M/BFT/10/26)

CONTENT

EXECUTIVE SUMMARY

"Web Applications is a start-up for even an already established company offline."

Merchant Of Shirt is a hypothetical shirt manufacturing company which makes made-to-measure garments.

The purpose of this paper is to understand the feasibility of an online made-to-measure application and to develop a web application through which a customer can place an order for a made to measure customised shirt in the least steps possible by using visual studio 2010, Microsoft access 2007 and VB.NET programming language.

The online fashion retailing industry is burgeoning. Numerous sites have cropped up in the past few years to claim their share of a very satisfying retail pie. This competition has also resulted in small and big ventures innovating to try and stay ahead of a ferocious pack.

Technological advances have created another alternative: economical individualized clothing for the middle market. Sizing algorithms and e-commerce enable companies to offer a variety of designs and fits at only slightly more than similar off-the-rack prices. Now consumers can buy made-to-order clothing online.

In this paper, I have developed a computer application and the whole process of development of the application is explained step by step. This paper can be used as guide to build similar application.

OBJECTIVE OF THE PROJECT

To develop a computer application through which a customer can place an order for a made to measure customised shirt.

NEED FOR THE PROJECT

The trend towards product customization that can be observed nowadays is the result of many changes in the business environment. These have enforced many suppliers to revise their production strategies and management concepts.

Though there are many website and mobile applications that enable the consumers to buy the apparel products of multi brands but there are very few that enable the consumers to buy and customise their product according to their choice. There are customisable T-shirts and Sportswear but not much of the work has yet been done in the category of customisable formal apparel category like shirts, trousers and jackets.

Through this project, I intend to develop a computer application (downloadable though internet) that can enable a consumer to customise a shirt in collars, cuffs, hem, fit and measurements.

SCOPE OF THE PROJECT

There are very limited customisation options available in apparel industry. Also, these customisations are limited to only very few apparel products. So we can open doors for the wider variety of apparel products with more customisation options.

Customised Product Business is a bubble business which has not even started in India there is yet lot to explore in this field.

Online customisation in Formal Category of Apparels is yet to be explored by the Indian Online Retail Industry.

So, a downloadable computer application in which through few swipes and clicks the consumer can buy a custom fit made-to-measure garment of his choice can break these limitations in the Online Customised Apparel Market without spending on concrete stores.

LITERATURE REVIEW

- *INTRODUCTION*
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INTRODUCTION

Ever since the advent of internet, every aspect of our day-to-day life has witnessed a sea change in terms of work being done. Today, shopping for clothes, accessories etc. or gifting things to others is hardly a matter of few minutes. All we need is an internet connection and few clicks to get it done.

The new technology has made it possible to conduct business online and this has resulted in a phenomenal rise in the number of websites. However, a prerequisite to set up a successful online business is a web design. A website has to be attractive and user friendly to attract a large number of customers. *The following graph explains the ratio of nine biggest online buying nations between their online sales in 2011 and forecasted sales in 2016.*

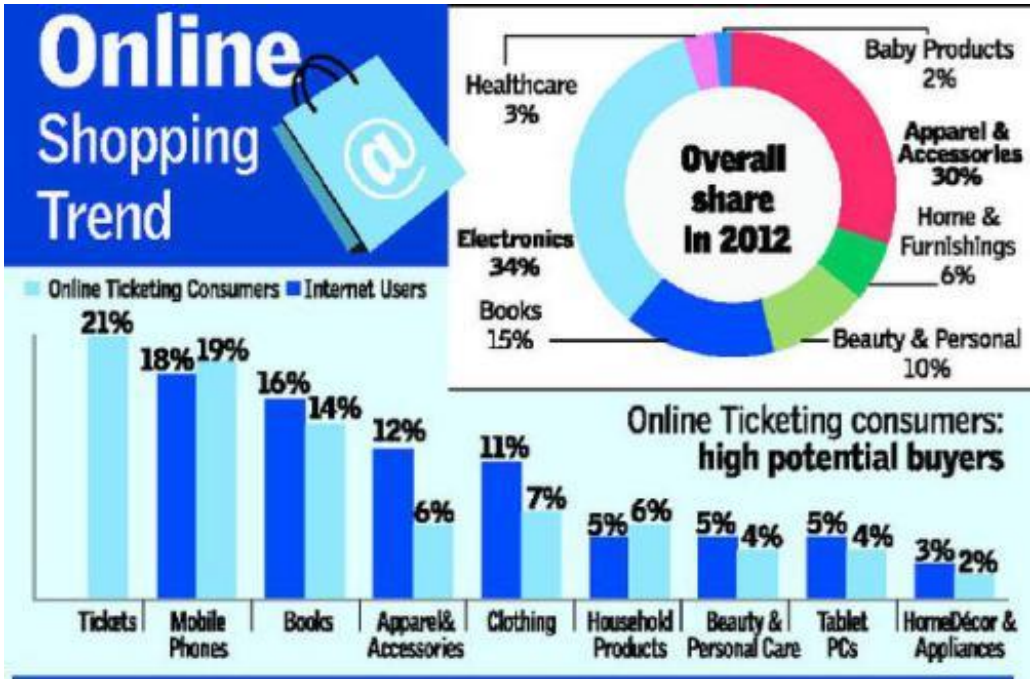
According to Economic Times, 30, Dec, 2013, "India's e-commerce market grew at a staggering 88 per cent in 2013 to $ 16 billion, riding on booming online retail trends and defying slower economic growth and spiralling inflation, according to a survey by industry body Assocham."

E-commerce in India has evolved significantly in the last decade, and there are many aspects of e-commerce like TV shopping, online shopping and mobile, which are all part of what is digital commerce. That journey has happened over the last decade.

The online fashion retailing industry is burgeoning. Numerous sites have cropped up in the past few years to claim their share of a very satisfying retail pie. This competition has also resulted in small and big ventures innovating to try and stay ahead of a ferocious pack.

The segment is also attracting capital. According to a paper published by Technopak, a consultancy firm, titled 'Apparel E-tailing in India', the $130-million apparel "e-retailing space" in the country has attracted investments worth $70 million, or 40% of the total funding Indian online retailers got in the past two years.

According to The Hindu, Jan 28, 2014, 'Apparels and accessories will emerge as the biggest category in online shopping search this year, taking over from consumer electronics last year, in terms of absolute query volumes.'



According to a Google India study, search for consumer electronics was at 34 percent, followed by apparels and accessories at 30 per cent in 2012.

"In 2013, we saw apparels and accessories' queries going up to 35-36 per cent and consumer electronics down from 34 per cent to around 30 per cent because of more options available in apparels and accessories," Nitin Bawankule, Industry Director-Ecommerce, Classifieds and Media, Google India, told in a report to The Hindu.

According to the article "Responsive design to boost m-commerce, by fibre2fashion", 'E-commerce already has been a huge hit among consumers all around the globe. With the increasing amount of Smartphone users, the need to have diverse platforms and developing a strong m-commerce or mobile-commerce channel becomes extremely essential. Internet sites and mobile applications are known to be the best ways to reach consumers online. Which, to an extent is true, but sadly the desktop layout does not work well on a tablet or for that matter, even on a smartphone.

Zooming on products and filling details can be very inconvenient for consumers while accessing a web site or purchasing clothes on their smartphones. This is when a layout which stays consistent throughout all mediums be it personal computers, tablets, smart phones or smart watches and at the same time acts differently depending on the size of the screen of the device being used is required. This is what responsive design can do to online commerce.'

CONCEPT OF CUSTOMISATION

According to Joe Pine and Jim Gilmore (*Strategic Horizon LLP, 1999*) customised is defined as," producing in response to a particular customer's desires." The authors point out that it is relevant to make the distinction between variety and customization. Whereas customization strives for fulfilling individual customer's needs, variety simply involves more choice from which the customer is able to choose.

"Fundamentally, customers do not want choice; they just want exactly what they want" (*Pine/Gilmore, 1999*). Customization is intended to add increased customer perceived value to a product, since a customized product – compared to a mass produced product – increasingly fulfils the need of the customer.

When defining the term product customization, it is relevant to include the product perspective which can be a physical good or a service. Thus, product customization can be defined as producing a physical good or a service that is tailored to a particular customer's requirements. In this context, customer involvement is an important issue, because customers dictate what the enterprise has to produce. In the case of physical goods, product customization can occur ex post after manufacturing by the retailer customization is considered because the main focus will be placed on manufacturing enterprises. However, value adding services around physical products are considered as additional criteria for differentiating goods and thus for customization.

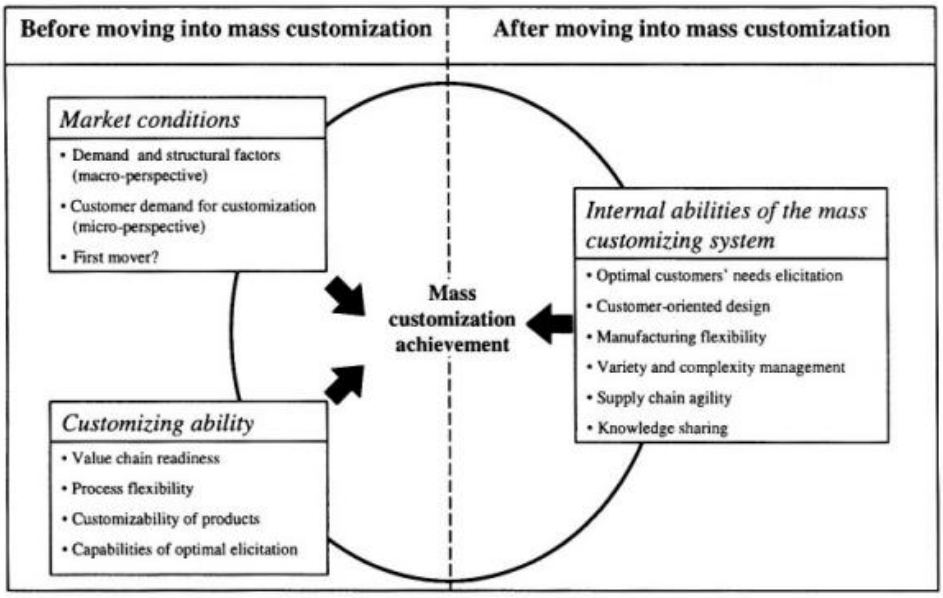
In order to customize products there are two main approaches. The first is to specifically design and manufacture products for a particular customer's requirements by using a job shop manufacturing system. These products are designed and produced from scratch for each individual customer, in other words, the needed resources are used differently to a great extent for each specific product. However, the second approach is to implement a mass customization system that aims at linking both advantages of mass production and customization. The main objective of mass customization is to produce individualized goods with near mass production efficiency (*Pine 1993*). Thereby, not only the product individualization perspective plays a relevant role, but also the costs' perspective. For example, Rautenstrauch et al (*Moving towards mass customization, 2002*) speak about mass customization when the product price does not exceed approximately 10-15 percent of a standard product. From a strategic point of view, the goal of mass customization is to differentiate products through customization and to also take advantage of the economies of scale. *Frank T Piller (Author: A new marketing approach to mass customisation, 2000) mentions* that the mass customizer has to provide customers with an achievement potential by developing a wide product solution space from which customers can select or self-configure the product variant that meets individual requirements.

NECESSARY CONDITIONS WHEN ACHIEVING PRODUCT CUSTOMIZATION

The main concern is to determine the specific organizational requirements and favourable market factors that will contribute to an increase in the probability of the success implementation of mass customization. For instance, *according to Broekhuizen/Alsem (Authors, Mass Customization Strategies: Development of a Competence-based Framework,2002)* success in mass customization is attained when the supplier provides customers with "...superior customer value – in contrast to mass manufacturers' offerings – through customization on a mass scale". *Kaluza* identifies six strategic success factors, namely: costs, quality, time, flexibility, service, and product variety. However, necessary conditions can relate to success factors, competences or capabilities that the supplier has to examine and to develop further before and during the pursuit of mass customization.

For the elaboration of the framework, we primarily focus on what conditions are necessary for the implementation and pursuit of mass customization. We do not concentrate on how these conditions can be fulfilled or influenced. For instance, we argue that technology is just a means that supports manufacturing flexibility or optimal customers' needs elicitation. Technology pertains to the category of enablers which can be defined as "... the means by which change occurs" said Hart (*Author, Fundamental Modes of Operation for Mass Customization, 1995*).

The framework summarizing the main conditions are believed to be decisive for the achievement of mass customization is represented by fig.



It distinguishes between market conditions and customizing ability as main dimensions before shifting to mass customization. After implementation, several internal abilities of the mass customizing system have to be maintained and further developed.

MARKET CONDITON

Before shifting to mass customization, the supplier has to carefully examine whether the market conditions are favourable with respect to

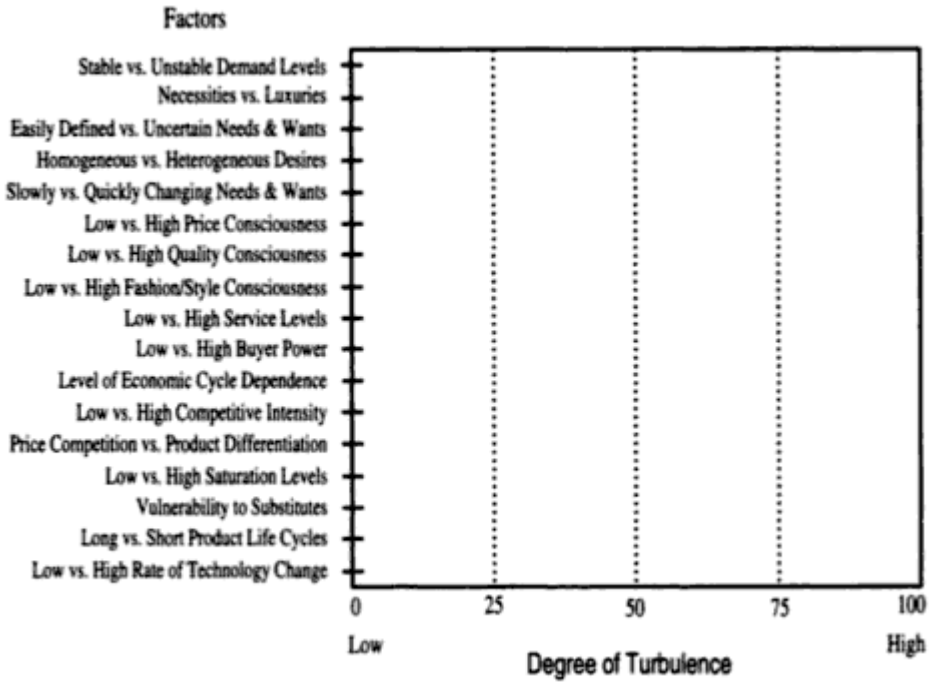
(a) demand and structural factors,

(b) customer demand for customization and

(c) first-mover advantage.

Demand and structural factors

The market turbulence map of Pine (1993) proposes a market turbulence questionnaire to be distributed to key executives and/or knowledgeable managers and professionals across a broad section within the company. On the basis of their responses, the market turbulence map can be drawn up, from which the turbulence level of the company's market environment can be determined. However, the market turbulence map of Pine singly takes into account information that stems from company members and not from customers.



Although Pine empirically validates his market turbulence model by examining the correlation between the market turbulence factors and measures of customization and variety, we think it is also important to evaluate whether the customers themselves are interested in customization.

Customer demand for customization

The success of mass customization should be primarily initiated by customers. Their willingness to have individualized products with eventual premium prices and longer delivery times is a decisive condition that has to be examined before moving into mass customization. It is obvious that if final customers do not have any interest in customization, pursuing mass customization strategies will be superfluous. Zipkin (Author: 2001) points out that customization may truly add value to customers when they sharply differ in their preferences for certain product attributes. The concept of key value attributes for mass customization as the attributes with the greatest perceived value to the customer. The analysis of the key value attributes is a relevant issue in order to determine where the focus of product variety should be. It can be identified as to which product variety is important and value adding from the customers' perspective.

In particular, we need to know how much consumers care for customized offerings and which customized products or services would be more wanted by consumers" (Guilabert/Donthu, 2003). In order to contribute in the filling of this research gap, Guilabert/Donthu use the notion of Customer Customization Sensitivity (CCS) which was first introduced by Hart (1995). The authors define CCS as the "customer's susceptibility to preferring customized products/services" (Guilabert/Donthu) and develop a scale consisting of six dimensions which help evaluate whether potential customers will accept customization or not. These dimensions are presented in figure

Customer Customization Sensitivity (CCS) Scale
1. In general, customized products/services meet my needs better than standard ones
2. I wish there were more products/services that could be easily customized to my taste
3. I believe there is a need for more customized products/services
4. If the price is similar for standard and customized products/services I would choose customized products/services
5. If I have to wait the latest version of a "---" product service I'd go with the previous version instead
6. If I have a choice, I prefer to have customized products/services

First-mover advantage

The last factor pertaining to market conditions is the first mover advantage. Suresh Kotha (University of Washington, 1996) argues that being a first mover in implementing mass customization will be beneficial for the supplier's image. Even when competitors enter the mass custom segment afterwards, they will find it difficult to prevail, especially when customers consider the first mover as the leader and best supplier of individualized products.

CUSTOMISING ABILITY

Customizing ability deals with the evaluation of the readiness of the whole organization before moving into mass customization. Customizing ability basically must be examined with respect to

(a) the value chain readiness,

(b) process flexibility,

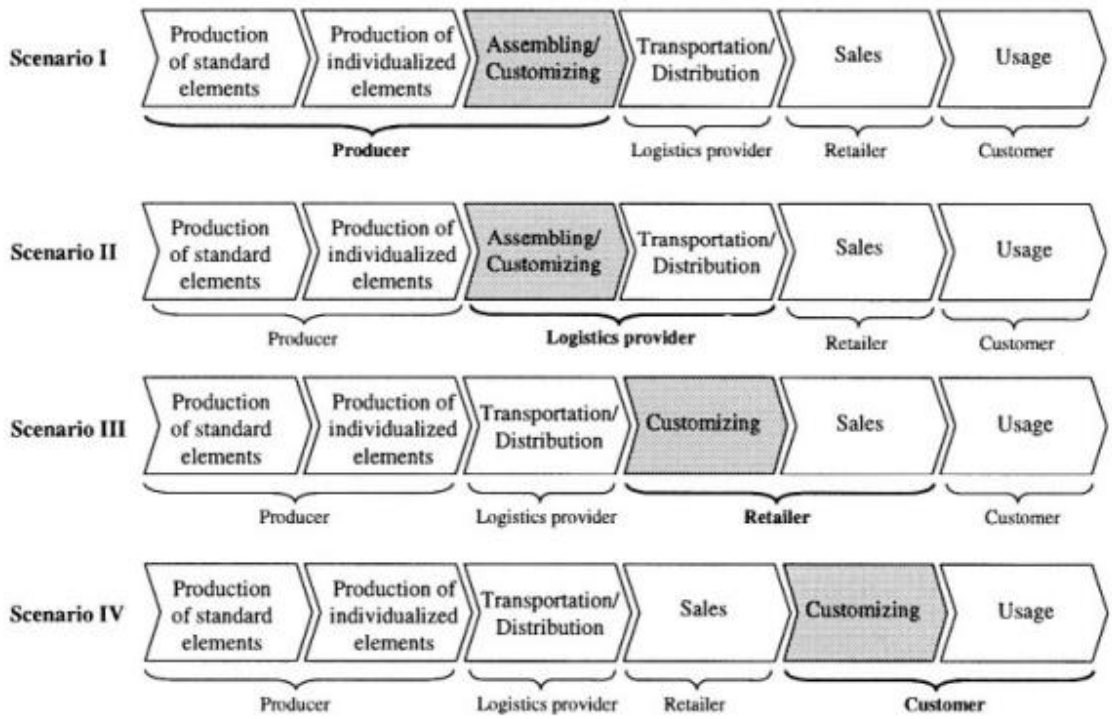
(c) customizability of products and

(d) capabilities to optimally elicit customers' requirements.

Value chain readiness

The objective of evaluating the value chain readiness before shifting to mass customization is to examine the customizing potential of the entire network including the company, its suppliers, distributors and retailers. Consequently, a large number of parts required in the end product assembly might be outsourced.

Thus, it is conceivable that other partners in the value chain take over the task of producing the customized elements or the customization of elements. For this reason, several partners in the value chain can play a substantial role in achieving good responsiveness to customers' preferences. The result of the evaluation of the value chain readiness is a specification of the activities of the individualization process to be carried out inside the company and those to be outsourced. If strategic suppliers, distributors or retailers do not have the necessary capabilities, a narrow cooperation with the objective to improve the customization capabilities of the entire value chain, is required before moving into mass customization. Schenk/Seelmann-Eggebert introduced four different logistical approaches of how to realize mass customization strategies across the value chain. They discuss different scenarios where the customizing process can be carried out either by the producer, logistics provider, retailer or customer. The four way logistic approach is described in the figure below.



Process flexibility

In order to cope with a high diversity of customers' requirements in mass customization a large product variety is needed. This induces a variant-rich production where process flexibility plays a decisive role. Process flexibility can be improved by minimizing setup times. A setup can be defined as "...any changeover activity that is necessary in batch manufacturing to change parts, fixtures, tooling, equipment programming, or instructions from one product, or product variation, to another" (Anderson Zacks, Anderson Group).

Before moving into mass customization it is relevant to make sure that the current production system can be easily adapted to use flexible processes and to incorporate computer-aided as well as manual manufacturing.

Customizability of products

In addition, to make processes flexible some changes on the product design level are necessary. In fact, "[t]he concept of modularity is a basic building block in the manufacturing situations traditionally considered to be flexible" (Duray et al., Approaches to mass customisation, 2000). Moreover, modularity is an approach that enables manufacturers to postpone customers' orders. Modules can be anonymously produced on a mass scale. When a customer order arrives, modules are then combined in a way that will satisfy the specific requirements of the customer. Thus, the product modularity level not only influences manufacturing flexibility but also the customizability of products.

Capabilities of optimal elicitation

Before moving onward to mass customization, the necessary capabilities for optimal customers' needs elicitation should be available. Suresh Kotha emphasizes that mistakes and errors in processing customers' orders can be extremely costly in mass customization. Therefore, the company has to implement mechanisms that help customers find the products that fully correspond to their requirements. The information gained from customers is of high relevance since it represents the basis on which the individualized product is manufactured. If a mistake occurs at the elicitation stage, then the product will by no means correspond to customers' expectations.

In order to have access to customer information, it may be required to develop an inter-connected information network with a group of retailers who maintain direct contact with customers. Another alternative is to directly communicate with customers by e.g. implementing a software tool over the World Wide Web which provides customers with the possibility to change and visualize product variations. The supplier should consider many alternatives and evaluate them with respect to the available capabilities and potential for the successful achievement of mass customization.

MADE TO MEASURE IN ONLINE BUSINESS

According to Brooke, Simon (March 31, 2007), Financial Times, 'Made to measure typically refers to clothing that is sewn from a standard-sized base pattern. The fit of a made-to-measure garment is expected to be superior to that of a ready-to-wear garment, because ready-to-wear garments are constructed to fit the manufacturer's definition of an average customer, while made-to-measure garments are constructed to fit each customer individually.'

Technological advances have created another alternative: economical individualized clothing (call it mass customization) for the middle market. Sizing algorithms and e-commerce enable companies to offer a variety of designs and fits at only slightly more than similar off-the-rack prices. Now consumers can buy made-to-order clothing and shoes online.

Levi Strauss & Co. helped lead the way with its "personalized pair" program in 1995. After a one-time computerized fitting, a customer could choose from among a range of styles, fabrics, finishes, and colors, and a pair of jeans could be individually manufactured based on the customer's original specifications. The program didn't last – it was discontinued in 2004, when domestic manufacturing was moved off-shore and customized work could no longer be managed long distance. But it opened the door for others to try their luck in this emerging retail sector.

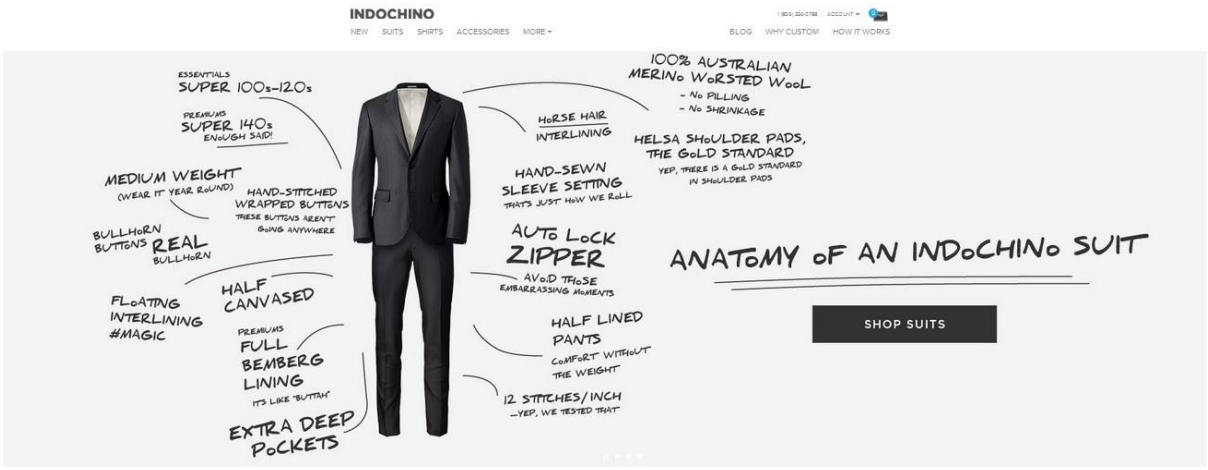
"The made-to-order trend has grown significantly in the last decade, on all levels of e-commerce, from solo operations to multinational manufacturers. And it appeals to customers of all ages. Some are looking for a bargain from a company that keeps its prices low by not having a brick and mortar presence. Others are willing to pay a premium, sometimes 25% more, for a taste of old world men's bespoke tailoring and women's couture fashion.", said, *Wendy S. Goffe, Forbes Magazine, January 7, 2013.*

The proliferation of online made-to-order apparel suggests that buyers are hungry for customized garments. While buying these goods online isn't likely to disrupt the retail industry, it is clear that retail apparel companies are busy creating new and innovative ways to reach beyond the traditional brick and mortar experience.

Some retailers have latched onto the made-to-order inspirational luxury trend by customizing fit, using customers' measurements entered online, to produce a garment that fits according to their size and specifications. Others customize style, with a menu of options that can be combined in multiple ways, to create a unique finished product. Some do both.

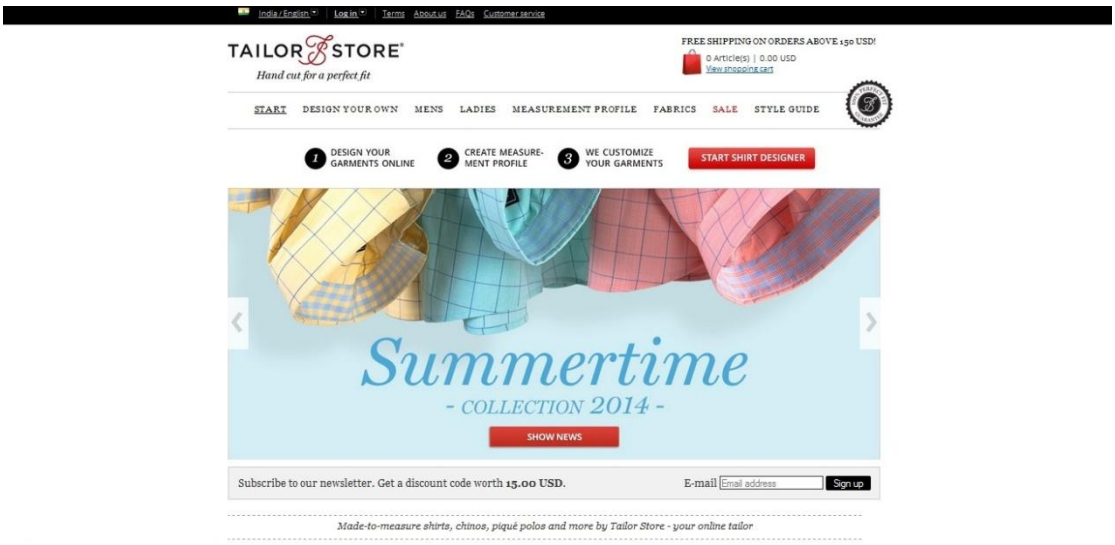
CUSTOM FIT ONLINE STORES

Indochino, based in Boston, is one of the most popular online sellers of made-to-order menswear. For $29 they will send a tailor's kit containing 16 fabric swatches, measuring tapes and a $29 credit toward a future order. By avoiding a brick and mortar presence, Indochino is able to keep its prices down. Recently a premium Italian charcoal wool suit was selling for $599. A similar one at Nordstrom by BOSS Black was listed for $795.



(Pic, screenshot of Indochino.com)

Only a few companies offering customized fit cater to both men and women. Tailor Store is one of them, based in Helsingborg, Sweden. They provide made-to-measure clothing for men and a small line for women. While overseas shipping may be slightly more, they have more styles and options than most brick and mortar stores at a price that is comparable to or less than Nordstrom, Brooks Brothers, and other traditional mens' clothing stores.

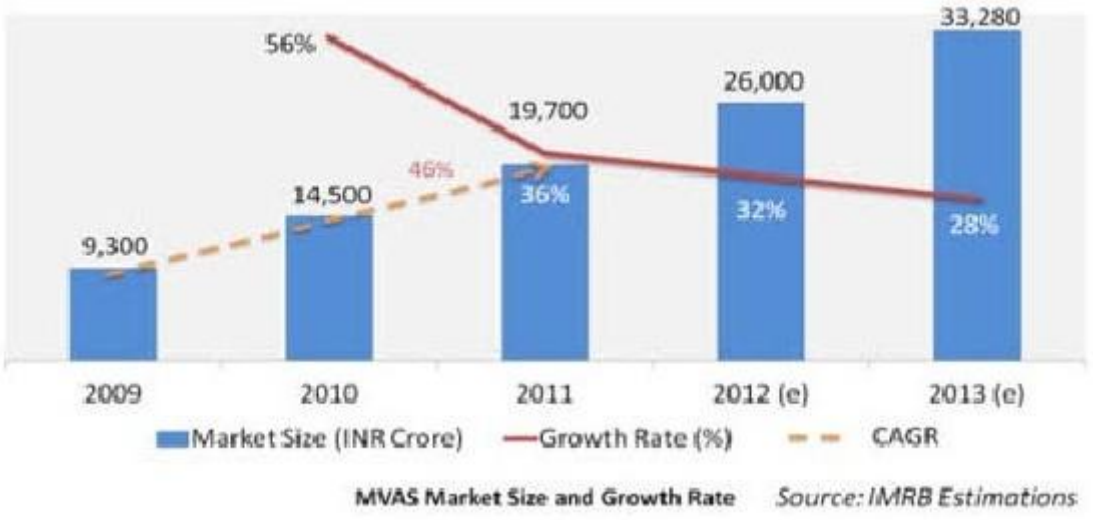


(Pic, Screenshot of Tailorstore.com)

M COMMERCE

The phrase mobile commerce was originally coined in 1997 to mean "the delivery of electronic commerce capabilities directly into the consumer's hand, anywhere, via wireless technology." Many choose to think of Mobile Commerce as meaning "a retail outlet in your customer's pocket."

Mobile Commerce or M-Commerce can also be defined as *any electronic commerce activity conducted over through mobile devices* such as smart phones, tablet PCs etc. Mobile Commerce includes both B2B and B2C e-commerce transactions executed through Mobile Devices.



(Pic, graph between MVAS Market Size and Growth Rate from International Journal of Advanced Research in IT and Engineering)

According to BI Intelligence in January 2013, 29% of mobile users have now made a purchase with their phones. Walmart estimated that 40% of all visits to their internet shopping site in December 2012 was from a mobile device. Bank of America predicts $67.1 billion in purchases will be made from mobile devices by European and U.S. shoppers in 2015. Mobile retailers in UK alone are expected to increase revenues up to 31% in FY 2013–14.

Wireless networks like 3G, GPRS, GSM, and CDMA have enabled the Indian Mobile Users to access internet on mobile devices. Mobile Device Users in India get access to the data and information stored on server through Mobile Internet.

There is widespread penetration of Mobile commerce in India. Mobile Commerce has enabled Indians to execute transactions at the touch of a screen. Mobile commerce relates to connecting people through wireless networks without the need of computers or laptops.

Indian Mobile Web Users have high expectations from Mobile Web World.

- Mobile Internet Usage has already surpassed desktop visits in India.
- Mobile Internet in India has become more secure and fast. M-commerce in India is likely to outperform e-commerce as a choice for digital commerce transactions.
- In Urban India there are more than 27 Million Smart Phones.
- More than 50% of the Smart Phone users in India search for local information over Mobile Internet.

After the success of online shopping on internet, online shopping companies are focusing on mobile shopping as now days this is another booming sector. User wants to spend more time on mobile phone than computer these days so preferably a consumer searches for products and services using mobile phones. As per Nielsons, mobile shopping is increasing 10% to 15% each year and is adding a huge contribution to commerce and from October 2009, to Jan 2012, 38% growth has been recorded.

M-Commerce and Banking Companies are very optimistic for the growth of M-Commerce India. The recent success of e-commerce companies in India further brightens the scope of Mobile Commerce.

The benefits of Internet and E-commerce extend to Mobile Web and Mobile Commerce as well. Some of the benefits of M Commerce are:

Allow Urgent Transactions

M-commerce allows time critical and emergency transactions. For an instance, train availability and train schedules can be obtained even at the last moment.

Secured Transactions

The mobile user uses his mobile device itself for the payment of utility bills, such as – phone bill, electric bill, petrol purchase etc. Thus, in a way it is more secure than other modes of payment.

Target Based Advertising

The region-specific promotion or advertising can be easily conducted in the mobile commerce environment. Mobile Advertising allows to target Location based Advertising. For example, if your business is in India, you can set Mobile Advertising campaigns based on your locality, city etc.

Anytime Access

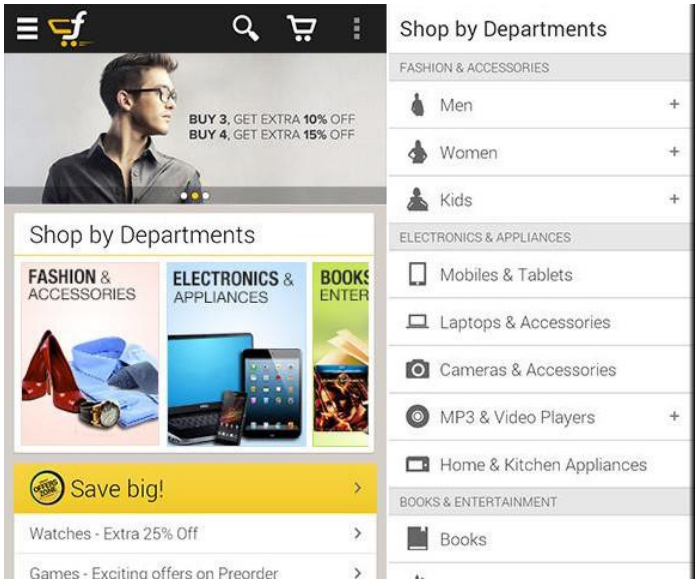
Mobile internet is available anytime 24x7x365. Mobile users can conduct their mobile transaction and access information at their convenience.

Tablet PCs, Smart phones etc are the commonly used mobile devices. The small screen size is a great handicap for browsing users and graphic users. The small size of the device limits the use of powerful hardware and display interfaces. Mobile devices have limited memory and storage capacity. As a result, Mobile devices fail to support complex applications.

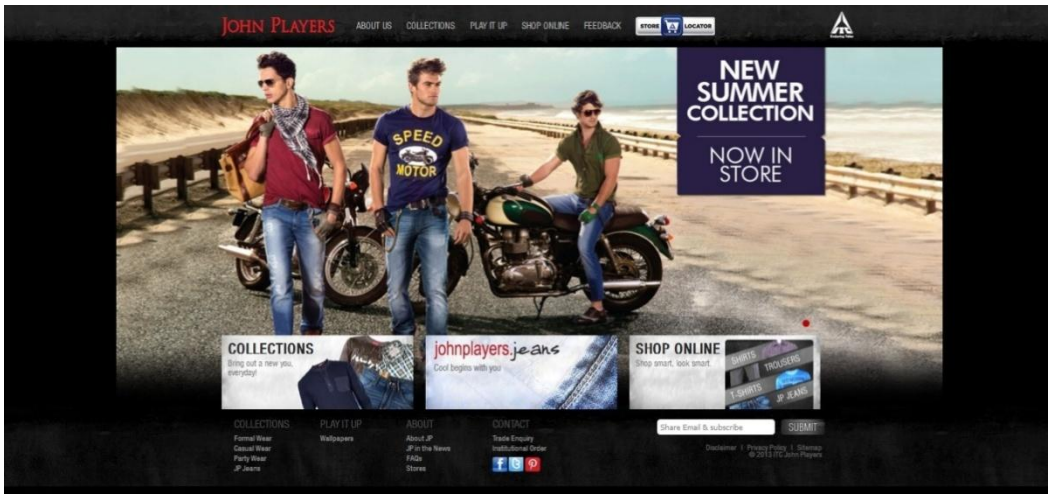
M COMMERCE IN APPARELS

“Fashion and home related products are most popular amongst customers buying over mobile owing to the impulsive buying patterns for these products*,” said Ankit Khanna, VP, product management of Snapdeal.com.*

There are many mobile applications for Android, Windows and Apple in India which enables their customers to buy their choice of clothes online through your mobile. For example, Jabong, Flipkart, Snapdeal, Tradus, Amazon etc., these applications enables us to buy clothes from multiple brands. There are also online stores of RMG brands like Versace, Louis Vuitton, Louis Phillippe, John Players etc. It is surprising that there are only a few brands in India as well as overseas which have their Mobile Application for B2C (Business To Consumer) platform.



(Pic, Android Mobile Application of Flipkart)



(Pic, Website for online shopping of John Players)

eBay India on February 26, 2014 launched its 'Deals@10PM' initiative, aimed at helping more people shop online using their mobile phones.

Available between February 26 to 28, eBay offered mobile only deals across different products categories like perfumes, watches, audio accessories, auto accessories, apparels and video games from 10 PM to 12 midnight.

This initiative was taken on the basis of a survey conducted in 2013 which indicated that 78 per cent shoppers prefer shopping on mobiles to get great deals on purchases and 45 per cent shoppers said they accessed shopping sites only at night. On eBay India, 24 per cent of all customers visit via a mobile device *(as told by, eBay India Head Mobile Commerce Santosh Rao).*

In a statement, Snapdeal said that 45% of the transactions seen on mobile now come through the native applications while the remaining 55% come through the mobile site. Also, the average ticket size of orders place through the mobile apps is higher than those placed through the mobile site.

India’s nearly 100 million Smartphone users are beginning to shop online at a pace that the country’s biggest e-commerce companies such as Flipkart and others are expecting the mobile traffic to surpass their desktop user base this year.

“Given the increasingly higher consumption of data on mobile phones, we think that the next wave of digital commerce customers will come from this medium,” Ankit Khanna, VP, product management of Snapdeal.com said in a statement.

Indeed, several mobile-only startups too are also beginning to gain from this trend. Paytm, a mobile shopping app, is chasing an audacious goal — to process 1 million orders in a day by 2016 before any of the bigger, established e-commerce rivals reach that milestone.

India’s fast growing population of first time Internet users are increasingly buying on mobile. Even if we consider a 20% quarterly growth rate, the mobile Internet users in India will reach 185 million from around 155 million currently.

VISUAL STUDIO 2010: INTRODUCTION

Microsoft Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs for Microsoft Windows Operating Systems, as well as web sites, web applications and web services. Visual Studio uses Microsoft software development platforms such as Windows API, Windows Forms, Windows Presentation Foundation, Windows Store and Microsoft Silverlight. It can produce both native code and managed code.

Visual Studio includes a code editor supporting IntelliSense as well as code refactoring. The integrated debugger works both as a source-level debugger and a machine-level debugger. Other built-in tools include a forms designer for building GUI applications, web designer, class designer, and database schema designer. It accepts plug-ins that enhance the functionality at almost every level—including adding support for source-control systems and adding new toolsets like editors and visual designers for domain-specific languages or toolsets for other aspects of the software development lifecycle.

Visual Studio supports different programming languages and allows the code editor and debugger to support (to varying degrees) nearly any programming language, provided a language-specific service exists. Built-in languages include C, C++ and C++/CLI, VB.NET (via Visual Basic .NET), C# (via Visual C#), and F# (as of Visual Studio 2010). Support for other languages such as M, Python, and Ruby among others is available via language services installed separately. It also supports XML/XSLT, HTML/XHTML, JavaScript and CSS. Individual language-specific versions of Visual Studio also exist which provide more limited language services to the user: Microsoft Visual Basic, Visual J#, Visual C#, and Visual C++.

Microsoft provides "Express" editions of its Visual Studio at no cost. Commercial versions of Visual Studio along with select past versions are available for free to students via Microsoft's DreamSpark program.

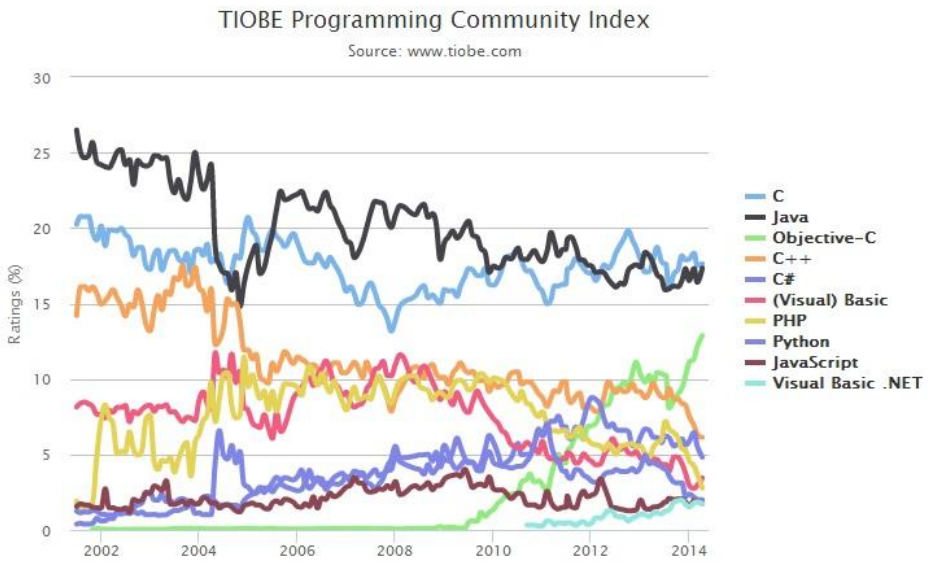
VISUAL BASIC .NET: INTRODUCTION

In April 2010, Microsoft released Visual Basic 2010 along with .NET Framework. Microsoft currently supplies two main editions of IDEs for developing in VB.NET: Microsoft Visual Studio 2012, which is commercial software and Visual Basic Express Edition 2012, which is free of charge. The command-line compiler, VBC.EXE, is installed as part of the freeware .NET Framework SDK. Mono also includes a command-line VB.NET compiler. The most recent version is VB 2013, released November 18, 2013.

Visual Basic .NET (VB.NET) is an object-oriented computer programming language, implemented on the .NET Framework.

VB.NET has the following syntax:

- Statements can terminate with keywords such as "End If", instead of using "{}"s to group statements.
- Statements can also be terminated with a new line, instead of semicolons.
- Variables are both assigned and compared using an ‘equal to’ sign.
- Round brackets are used with arrays, both to declare them and to get a value at a given index in one of them.



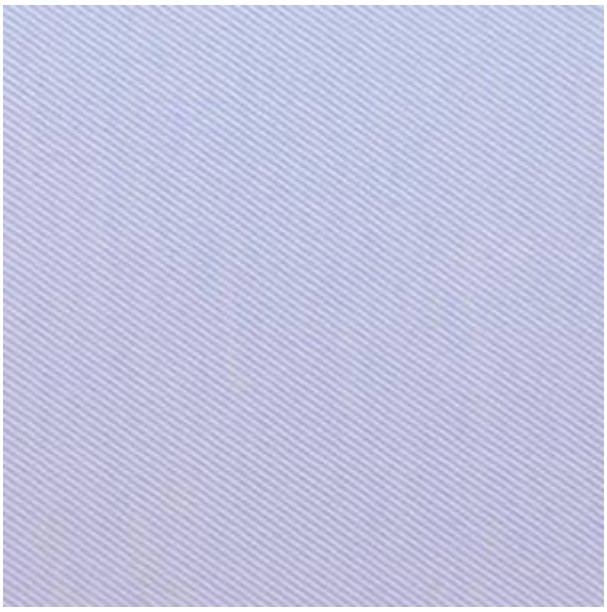
The TIOBE Programming Community index is an indicator of the popularity of programming languages. The index is updated once a month. The ratings are based on the number of skilled engineers world-wide, courses and third party vendors. Popular search engines such as Google, Bing, Yahoo!, Wikipedia, Amazon, YouTube and Baidu are used to calculate the ratings. Visual Basic .NET is amongst the ten most popular programming languages according to TIOBE Index.

INTRODUCTION TO SHIRT FABRICS

Shirt fabrics, or "shirtings" as they are called by tailors, are of various nature and variously appropriate. Cotton is by far the most common fabric for dress shirts, and most fabric names refer to a particular method of weaving it. The numbers sometimes listed with fabrics denote the thickness of the yarn from which the fabric is made; higher numbers mean thinner yarn, and thence finer cloth and higher prices.

Oxford cloth, the coarsest shirting, is nonetheless quite soft and comfortable. A more casual fabric, its most natural form is the button-down collar. In coloured and patterned Oxford shirts, only the threads running in one direction are dyed, while the others are left white. This gives the fabric its characteristic textured appearance. Pinpoint Oxford is woven likewise, but of finer yarn, and is thus smoother and more formal. Royal Oxford is finer still, and can stand proudly beside a fine wool suit and expensive tie.

Poplin bears a smoother texture but similar weight, the result of a fine yarn running one way with a thicker one interweaving it. It is soft and comfortable, and often used in more casual shirts. Colours find themselves easily at home here, and it takes sporty patterns especially well.



Cotton twill, a shimmery diagonal weave, makes for richly textured shirts without sacrificing formality. In *herringbone* twill, the direction of the diagonals switches back and forth every quarter inch or so, giving the fabric even more depth. When occasion or whim calls for a solid shirt, twill plays the role with panache.

Finer still is broadcloth, of fine yarn woven so tightly that it gleams. This is the most formal shirting for day-to-day wear. *End-on-end* broadcloth is that made by interweaving threads of alternating colours for a visual texture so subtle it appears solid from an arm's length away. Thanks to its tight weave, this cloth displays patterns with exquisite precision.

Formal shirts are made of white piqué cotton, which boasts a rich, woven texture. This is the only shirt proper for black tie or white tie, and it is not appropriate for anything else.

Besides pure cotton, all the fabrics above can be found in cotton/polyester blends. These are less expensive, and while they do not look as rich or feel as smooth, they can often be worn without ironing. No-iron 100% cotton shirts offer the rich look of natural fiber with the ease of synthetics, but the good ones are very expensive and the cheap ones irritate the skin. Synthetics fibers get itchy and uncomfortable in extreme heat, i.e. over 95 degrees Fahrenheit. Ironing is really not that much work, and it is the surest way to look and feel good in shirts which are affordable enough that you can stock your closet with a diverse collection of them.

MENS SHIRT

(Pic, Louis Philippe Website)

Many details go into the construction of a men's dress shirt, and the more attention one pays to these the better results one can achieve in purchasing and wearing one. *Shirt fabrics are given their own separate article*; this article deals chiefly with the construction and design features of men's dress shirts. If you haven't yet read our *introduction to dress shirts*, we advise doing so as that it lays a foundation for this article's topics.

In retail stores, men's shirts are sized by collar circumference and sleeve length. Most are cut to fit the most corpulent members of each size, and thus look blousy on most men. Those with an uncommon pairing of neck size and arm length have difficulty even finding a shirt that fits in these two places. Since even the simplest alterations can add 25-50% to the price of a dress shirt, it is often more economical to have shirts made to one's exact measurements. For a man starting out who is unable to afford custom-made, the best bet is to try on a lot of shirts until one finds a particular size of a particular brand that fits him well in the chest, stomach, neck, and sleeves, and then buy as many colors and patterns of these as he can find.

Aside from fabric and fit, a man has a few matters of construction to consider when picking out or ordering a shirt: Collar, cuffs, pocket, placket, and pleats. As with fit, in retail these are standardized to the lowest common denominator and one has little choice in the matter. Even in a store with thousands and thousands of shirts, you will likely be able to count on one hand the few that are really what you want.

Shirt Collars

Men's dress shirt collar is the most important, both in determining the garment's level of formality and in flattering the wearer's unique face. Button-down collars are the least formal, and are the best collars to wear without a tie. They also go well with a tie and sweater, blazer, or sport coat. The wing collar, which does not cover the band of the tie around the neck, is reserved for formal wear.

According to Akshay Marvekar, Co-founder Bombay Shirt Company, “Most men's dress shirts sport some sort of pointed collar, but there is huge room for variety here. While the standard point collar looks good on most men, those with narrower faces do better with slightly shorter ones, while round faces carry well above long collar points. As a general rule, the greater the angle between the short sides of the collar points, the more formal the presentation. Spread collars, which leave a wide opening between them, take large tie knots especially well. The edges of the cut-away collar nearly form a straight line above the tie knot; this is the most formal collar arrangement. An exception to the parallelism of spread and formality is the tab collar: here little tabs of fabric extending from each side connect behind the tie knot, holding the collar close together and projecting the knot outward for a precise, no-nonsense look. The white contrast collar, in any style, with or without matching white French cuffs, is a favourite of power-dressers. While it certainly raises a suit-and-tie above the masses, let the wearer be warned against it if he cannot equal its eminence.”

Shirt Cuffs

Barrel cuffs, standard on most dress shirts, come in a variety of styles and except for the most formal of occasions. The common variety has a single button; cuffs with two or even three buttons are somewhat more artful. French cuffs are *de rigeur* for formal wear; they look good with a suit but are always optional.

Shirt Pockets

The traditional left breast pocket adds a little depth to a dress shirt, especially if worn without jacket and tie, and can be useful for holding pens, tickets, and the like. A shirt with no pockets can look slightly cleaner with a coat and tie, but since the coat covers the pocket the difference is minimal when wearing a suit. As with most things, simplicity equals formality, so the pocketless shirt is the dressiest.

TYPES OF DATA

For this project only secondary data will be required.

Secondary data source:

- Standard Measurement Chart for different sizes *(from textbook, J Crew, Mens Clothing)*
- Standard procedure of pattern making *(from textbook, Helen Armstrong, Pattermaking for Fashion Design)*
- Coding and algorithms *(from textbook, Kogent Learning Solution Inc, Visual Basic 2010 Programming, Black Book)*

RESEARCH METHODOLOGY

CONCEPT OF CUSTOMISATION

First step in this process is to understand the process of customisation and to understand the feasibility of customisation of formal apparels.

E-COMMERCE AND M-COMMERCE

After understanding the limitations of customisation in formal menswear and positive feasibility result the next step is to understand the e-commerce and m-commerce market in the present scenario. It is found that understanding the current trends in the market is necessary before making a web application.

PROJECT DESIGN

Next step is to design the format of the application. First step is to choose which language would be best suitable according to the project and individual's skill set.

After choosing the language the format of the application is designed. First of all a basic format is developed. The basic format is thus modified according to the need of the project. The format is designed on the Form Design for GUI (Graphical User Interface).

PROGRAMMING AND DATABASE BUILDING

In Visual Studio 2010 coding and database building goes side by side. Hence after making the design of the application on Form Design we can do the coding/programming of each attribute (Form, Command Button, Label, Textbox, Date and Time, message Box etc.) and can develop the database in parallel. Each attributed is coded according to the design of the Application.

TESTING

After the application is built testing is required and observation has to be noted and these observations will be cross checked with the plan and modifications are done accordingly.

PROJECT:

DEVELOPMENT OF ‘MERCHANT OF SHIRT’

FEASABILITY OF CUSTOMISATION IN FORMAL SHIRTS

Before Ready Made Garment Industry all the apparels used to be custom made. Due to the emergence of industrialisation Ready To Wear garments came into market which were of much lower cost than the custom fit one.

Customizing ability examined with respect to

(a) The value chain readiness:
Since there are already many customisable products available in the market and the advent of E-commerce has already left its mark in the global shopping experience of the consumers as well as of retailers and manufacturers, the value chain is now aware of the value chain requirements of such business platforms. With the growth of online sales of apparel in the global apparel business there is a vacancy for businesses which can provide customised apparels to their customers in few clicks.

(b) Process flexibility:
Since the patterns can be modified from the standard size to the individual size of the consumer and all the stitching processes remains same for most of operations hence customised formal shirts though a web or mobile application are quite flexible.

(c) Customizability of products:
Formal shirts can be customised easily but there are some constraints when we talk about doing it online. Since there is no real communication between the user and the pattern master, there are many things which a user will not be able to explain to the master. The user will have to choose from only the options provided by the online retailer. Hence, with the constraints of the online retailer amongst the choices of customisability, the products can be customised to a limit.

(d) Capabilities to optimally elicit customers' requirements:
Popularity of customised product is increasing day by day. The business world and money bags of customised product retailers are increasing every day. There is a huge demand of customised products and many innovative ideas are been developed by various online retailers.

PROJECT DESIGN

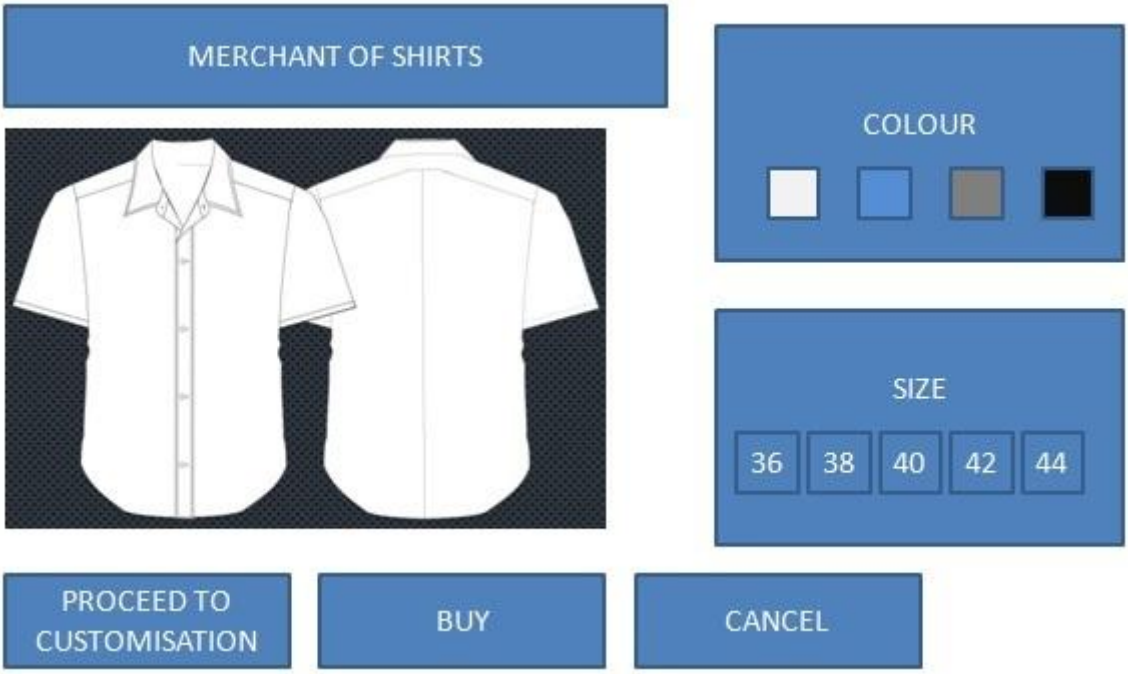
After consulting text of three languages; PHP, VB.NET and HTML, VB.NET is considered for the programming language to develop the desired application on Visual Studio 2010.

First the basic format is made. This format gives the basic idea about how the application should look like and what all necessary attributes should be made available.

Following is the basic layout of the application; Merchant Of Shirt.

(Pic, Homescreen)

The Home Screen consists of four buttons and one picture box. This screen will enable the user to buy the clothes directly according to the size entered by the customer while registering. There is also an option of customisation where the customer can customise various aspects of his choice of shirt like fit, collar and cuffs.



(Pic, Customisation Window for customising colour and size)

This screen will enable the user to customise his shirt with choice of colour and size (if the customer is interested to buy a particular standard size).

Proceed To Customisation button will enable the customer to proceed to the further customisation of his choice of product.

Buy button will enable the customer to skip other steps and buy the product with customised colour and size.

Cancel button will cancel all the steps and will route the customer to the Home Screen from where he can either choose another product or can exit the program.

(Pic, Customisation Window for customising collar, cuffs and fit)

This customisation window will enable the customer to further customise his choice of shirt by customising collar, cuffs and fit.

After selecting from different options the picture box will show how the shirt will look like after customisation.

Proceed To Fitting Room button will enable the customer to proceed to fitting room where he can enter his measurements.

Buy button will enable the customer to buy the customised product.

Cancel button will cancel all the steps and will route the customer to the Home Screen from where he can either choose another product or can exit the program.

(Pic, Window for taking measurements)

This window will enable the customer to give the details of his measurement which will be saved in the database of the customer account.

How To Measure button will open a window which will show how to take measurements.

Buy button will enable the customer to buy the customised product.

Cancel button will cancel all the steps and will route the customer to the Home Screen from where he can either choose another product or can exit the program.

LIMITATIONS OF THIS LAYOUT

- There should be a Log In, Register Now Button and Forgot Password Option where a new customer can log in.

  NOTE: Register Now Button refers to a button that can enable a customer to register as a new customer.
  Forgot Password Button refers to the button that can enable to remember the password by sending it on registered e-mail or phone number
- Customers are unable to see the other designs offered.
- Variety of fabrics and checks should be available.
- Sizes can be taken during registrations and all the customers should be able to buy through log in. The application will not ask for your measurement and size again.
- Picture with original fabric by using 3D view should be shown with each click on new combination rather than using vector images and solid colours.

NEW MODEL OF "MERCHANT OF SHIRT" AND USER MANUAL

With the consideration of the limitations in the basic layout a new layout is formed. This layout is designed on Visual Basic Window Form.

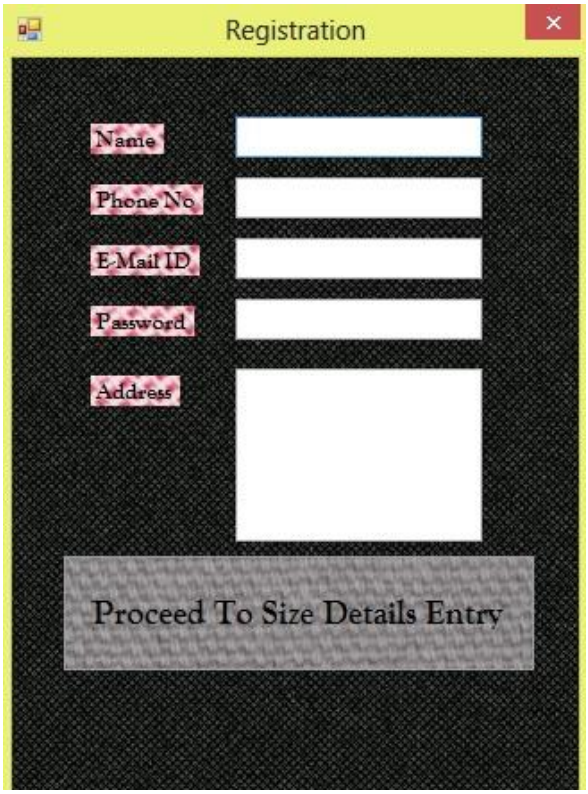
Following is the layout of the new model:

The application starts with the login page. Through this page the customer can log in to visit the main application form below shown picture is of the Log In page screen.

On clicking on Login button, a pop up window will appear and will ask for User Name and Password.

If the user is already registered then he can type his User Name and Password and click on Login to enter the main screen.

If the user has not registered yet, then registrations can be done by clicking on 'Not a User Yet! Register with us'. Clicking this button will open the registration window.



The Registration window will enable the customers to register themselves on 'Merchant Of Shirt'application. By registering themselves they do not have to mention their size again and again, though they can update their size anytime. Also, without registration one is not allowed to enter the main screen.

Here the user has to enter his/her Name, Phone Number, E-Mail ID, Password and Address.

On clicking on proceed to size detail a window pops up which asks the user to enter his/her size measurements.

The user will be asked to enter his size details, they are:

- Collar
- Chest
- Waist
- Length to waist
- Bottom
- Length
- Shoulder width
  (All measurements in Inch)

On clicking the Register button after filling all the details of personal information and size information the details will be registered on the server of 'Merchant Of Shirt'.

The Customisation screen is the main screen of the application. From this screen the user can update his account and size measurement, choose from the different styles available, the user can also customise the features like collar, fit etc.

Following are the different functions of the different buttons:

- Update My Account: This button is to update the users' account.
- Update My Measurements: This button is to update the body measurements of the user.
- My Past Purchase: This button will enable the user to check his past purchases.
- Preview: This button will enable the person to see how the shirt will look like after his choice of selection.
- Next: This button is to move to the next stage of the application.
- Logout: This button will enable the customer to log out his account and to return to the first screen of the application.

Following are the features of the group boxes (A group box is a container box which contains different attributes like combobox, checkbox, textbox etc):

- Fit Selection: This group box contains three different choices of fit/style of the shirt. The three fits are modern fit, straight fit and classic fit. The user can choose from the three by clicking on the checkbox.
- Collar Selection: This group box enables the customer to choose from the variety of collars available. We have used three kinds of collars here; Prince Charlie, The Polo and The Madman. The user can choose by clicking on the checkboxes beside them.
- Cuff Selection: This group box enables the customer to choose from different types of cuffs, that are; Single Convertible, Double Bond and The French.

The picture box enables the customer to preview the image with the selected customisation.

Once the user clicks the Next button a new screen pops up *(as shown in the side figure)*.

This screen enables the user to check all the details.

User can also choose the quantity of his choice.

The picture box will show the selected customised shirt.

On clicking the buy button, the order will be placed and a messagebox will appear to confirm that the order is place. From here we can redirect the user to the payment gateway.

PROGRAMMING

PROGRAMMING CODES OF LOGIN PAGE

```
Private Sub BACKGROUND_Load(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles MyBase.Load


    Me.WindowState = FormWindowState.Maximized


End Sub
```

Programming codes for the Log In button:

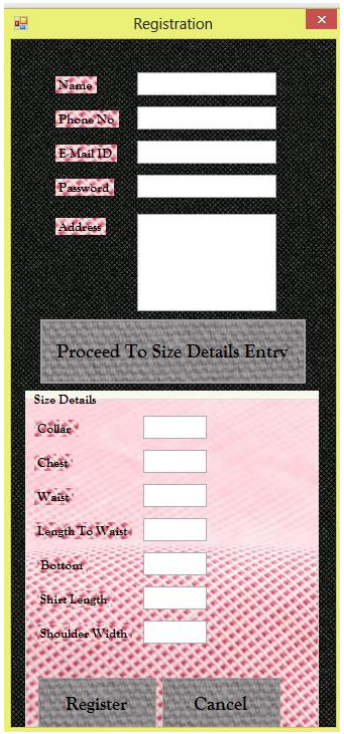
```
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button1.Click

    Login.Show()

    Button1.Hide()


End Sub

End Class
```

PROGRAMMING CODES OF LOGIN WINDOW

Programming codes of the Login Button:

```
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button1.Click

    Try

        sqlstr = "select * from CustomerDetail where CustomerID = '" & txtusername.Text & "' AND CustomerPassword = '" & txtuserpassword.Text & "'; "

        cn = New OleDbConnection(constr)

        cn.Open()

        cmd = New OleDbCommand(sqlstr, cn)

        dr = cmd.ExecuteReader

        dr.Read()

        If dr.HasRows Then

            Dim username As String = txtusername.Text

            txtuserpassword.Clear()

            txtusername.Focus()

            Mainform.Show()

        Else

            MsgBox("Username/Password do not match", vbCritical, "Login Error")

        End If

    Catch ex As Exception

        MsgBox(ex.ToString, vbCritical, "Error")

    End Try

    Mainform.txtusername.Text = txtusername.Text

    Me.Hide()

End Sub
```

PROGRAMMING CODES OF REGISTRATION WINDOW



Programming code of 'Not a User Yet! Register with us':

```
Private Sub LinkLabel1_LinkClicked(ByVal sender As
System.Object, ByVal e As
System.Windows.Forms.LinkLabelLinkClickedEventArgs)
Handles LinkLabel1.LinkClicked

    Registration.Show()

End Sub
```

Programming code of 'Proceed To Size Detail Entry':

```
Private Sub btnProceed_Click(ByVal sender As
System.Object, ByVal e As System.EventArgs) Handles
btnProceed.Click

    GroupBox1.Visible = True

End Sub
```

Programming Code of Register Button:

```
Private Sub btnregister_Click_1(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles btnregister.Click

    If txtemailID.Text = "" Then

        MsgBox("Please Fill The Form correctly. E-Mail ID not entered")

    Else

        Try

            sqlstr = "insert into CustomerDetail (CustomerID, CustomerName,
CustomerPhone, CustomerPassword, CustomerAddress, Collar, Chest, Waist,
LengthToWaist, Bottom, ShirtLength, ShoulderWidth) values ('" & txtemailID.Text &
"', '" & txtname.Text & "', '" & txtphno.Text & "', '" & txtpassword.Text & "', '" &
txtAddress.Text & "', '" & txtcollar.Text & "', '" & txtchest.Text & "', '" & txtwaist.Text &
"', '" & txtlenghttowaist.Text & "', '" & txtbottom.Text & "', '" & txtshirtlenght.Text & "', '"
& txtshoulderwidth.Text & "')"

            cn = New OleDbConnection(constr)

            cn.Open()
```

```
            cmd = New OleDbCommand(sqlstr, cn)
            count = cmd.ExecuteNonQuery
            If count = 1 Then
                MsgBox("Congratulations, You have been Registered. Your User ID is '" & txtemailID.Text & "' and password = '" & txtpassword.Text & "'", vbInformation, "Message")
            Else
                MsgBox("Sorry, some problem occured!!. Try Again Later.", vbCritical, "Error")
            End If
        Catch ex As Exception
            MsgBox(ex.ToString, vbCritical, "Error")
        Finally
            cn.Close()
        End Try
    End If
    Me.Close()
    Login.Show()
End Sub
```

PROGRAMMING CODE OF CUSTOMSATION WINDOW

```
Private Sub Mainform_Load(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles MyBase.Load

    Dim p As String

    p = "C:\MerchantOfShirt/StylePictures/1111.jpg"

    pbPicture.Image = Image.FromFile(p)

    txtusername.Text = Login.txtusername.Text

End Sub
```

Programming code of Preview Button:

```
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button1.Click

    Try

        Dim color, cuff, collar, fit, total As String

        If rdbStyle1.Checked Then

            color = 1

        Else

            color = 2

        End If
```

```
If rdbcuff1.Checked Then
    cuff = 1
ElseIf rdbcuff2.Checked Then
    cuff = 2
Else
    cuff = 3
End If
If rdbcollar1.Checked Then
    collar = 1
ElseIf rdbcollar2.Checked Then
    collar = 2
Else
    collar = 3
End If
If rdbfit1.Checked Then
    fit = 1
ElseIf rdbfit2.Checked Then
    fit = 2
Else
    fit = 3
End If
total = color + cuff + collar + fit
txtproductid.Text = total
Dim p As String
p = "C:\MerchantOfShirt/StylePictures/" & total & ".jpg"
pbPicture.Image = Image.FromFile(p)
Orders.pbPicture.Image = Image.FromFile(p)
```

```
    Catch ex As Exception
        MsgBox("No Picture available for this Fabric", vbCritical, "Error")
    End Try
End Sub
```

Programming codes of Next button:

```
Private Sub Button2_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button2.Click
    If rdbStyle1.Checked Then
        Orders.txtstyle.Text = "Style1"
    Else
        Orders.txtstyle.Text = "Style2"
    End If
    If rdbcuff1.Checked Then
        Orders.txtcuff.Text = "Single Convertible"
    ElseIf rdbcuff2.Checked Then
        Orders.txtcuff.Text = "Double Bond"
    Else
        Orders.txtcuff.Text = "The French"
    End If
    If rdbcollar1.Checked Then
        Orders.txtcollar.Text = "Prince Charlie"
    ElseIf rdbcollar2.Checked Then
        Orders.txtcollar.Text = "The Polo"
    Else
        Orders.txtcollar.Text = "The Madman"
    End If
```

```
    If rdbfit1.Checked Then
        Orders.txtfit.Text = "Modern"
    ElseIf rdbfit2.Checked Then
        Orders.txtfit.Text = "Straight"
    Else : Orders.txtfit.Text = "Classic"
    End If
    Orders.txtproductid.Text = txtproductid.Text
    Orders.txtQuantity.Text = "1"
    Orders.txtcustID.Text = txtusername.Text
    Orders.Show()
    Me.Hide()
End Sub
```

Programming code of Update My Account button:

```
Private Sub Button3_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button3.Click
    Registration.Show()
End Sub
```

PROGRAMMING CODES OF ORDER DETAIL WINDOW

```
Private Sub Orders_Load(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles MyBase.Load

    Try

        sqlstr = "select * from Table1 where StyleID  = '" & txtstyle.Text & "'"

        cn = New OleDbConnection(constr)

        cn.Open()

        cmd = New OleDbCommand(sqlstr, cn)

        dr = cmd.ExecuteReader

        While dr.Read

            txtunitprice.Text = (dr("Cost"))

        End While

        dr.Close()

    Catch ex As Exception

        MsgBox(ex.ToString, vbCritical, "Error")

    Finally

        cn.Close()

    End Try

    End Sub
```

Programming code of Ok button:

```
Private Sub Button2_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button2.Click

    cost()

End Sub
```

Programming code of Buy button:

```
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button1.Click

    If txtcustID.Text = "" Then

        MsgBox("Please Fill The Form correctly. Customer ID not entered")

    Else

        Try

            sqlstr = "insert into OrderDetails (CustomerID, OrderDate, ColourType,
CuffType, CollarType, FitType, Quantity, TotalCost, ProductID) values ('" &
txtcustID.Text & "', '" & dtporderdate.Value & "', '" & txtstyle.Text & "', '" & txtcuff.Text
& "', '" & txtcollar.Text & "', '" & txtfit.Text & "', '" & txtQuantity.Text & "', '" &
txttotalcost.Text & "', '" & txtproductid.Text & "')"

            cn = New OleDbConnection(constr)

            cn.Open()

            cmd = New OleDbCommand(sqlstr, cn)

            count = cmd.ExecuteNonQuery

            If count = 1 Then

                MsgBox("Congratulations, Your has been placed. Your desired Shirt will
be Shipped right now and you will recieve it in 7 working days. Thanks for using Our
Services", vbInformation, "Message")

            Else

                MsgBox("Sorry, some problem occured!!. Try Again Later.", vbCritical,
"Error")

            End If
```

```
        Catch ex As Exception
            MsgBox(ex.ToString, vbCritical, "Error")
        Finally
            cn.Close()
        End Try
        Me.Close()
    End If
End Sub
```

DATABASE

The Database of the application is made on Microsoft Access 2007. Three tables are made to give database support to the application. The tables are:

Customer Detail: It maintains the database of the customer profile. It has twelve different attributes:

- CustomerID
- CustomerName
- CustomerPhone
- CustomerPassword
- CustomerAddress
- Collar
- Chest
- Waist
- LengthToWaist
- Bottom
- ShirtLength
- Width

Order Detail: It contains the details of the order placed. It consists of ten attributes:

- OrderId
- CustomerID
- OrderDate
- ColourType
- CuffType
- CollarType
- FitType
- Quantity
- TotalCost
- ProductID

Table1(Cost): This table contains the cost of the products. Its consists of two attributes:

- StyleID
- Cost

CONCLUSION

In this project I have developed a computer application through which a customer can place an order for a made to measure customised shirt by using Visual Studio 2010 and Microsoft Access 2007 and VB.NET as the programming language.

Through this web application the customer can order a made to measure shirt in few clicks. Also, it indicates the pattern master, the nearest pattern of the customer This concept is inspired by the local tailors, how they manage the size charts of their regular customers and how do they take measurements. This is the online version what the local tailors do in their daily business.

This application can run on most of the Windows OS; Windows XP, Windows Vista, Windows 7 and Windows 8. This application can also run on any Windows Mobile. The Programming Codes of the application can be used to build the application for Apple and Android platforms also.

E-commerce and M-commerce are growing with the more affordable technology these days. Most of the businesses have already started to try e-commerce and many are moving towards m-commerce too. With this boom in the e-commerce and m-commerce and the popularity of customisation and made-to-measure, the amalgamation is worth a try. There are already many players who are providing customised product even customised apparels. But there are very less choices in the made to measure online. Offline made-to-measure is very costly.

During the development of this application I realised that it can be turned into a social business idea too. If we outsource the local tailors of various cities and area and give them a platform to get their customers online then this could turn into a new business concept.

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