

FINAL

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200 – IT

SNHU

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Swagger Industries Consultation

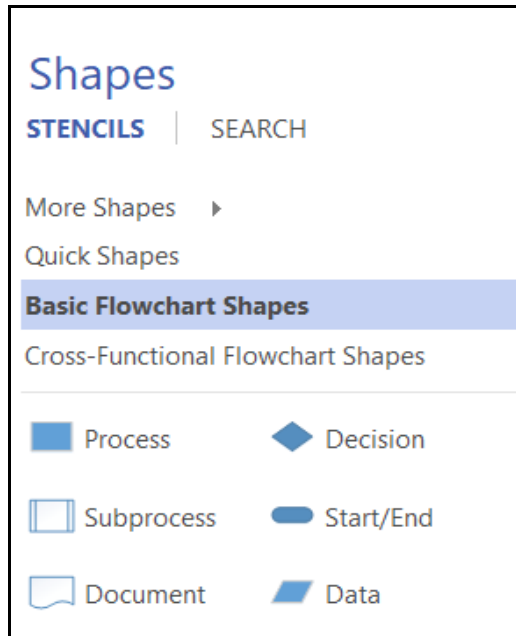
Swagger industries is in dire need of an overhaul with regard to its technical departments. The following pages address several concerns, suggestions, and examples with avenues the business could take itself and the pros and cons of each.

HCI(Human computer interaction)

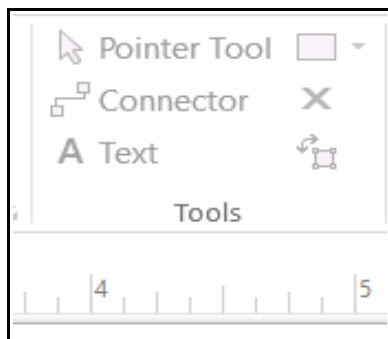
The HCI your company is experience is heavily diluted. Spread amongst numerous programs and interfaces on a daily basis. It is paramount that you and your staff understand the basics of these products in order to push a more productive working day. While I believe that personal exploration is the best way to learn I shall do my best to educate through this medium in the hopes that it helps you master these necessary softwares.

I will focus solely on the essentials for your business. These being Microsoft Word, and Microsoft Visio respectively. These two softwares rely primarily on the keyboard for their form of interface but use the mouse as well. From shortcuts such as CTRL-C and CTRL-V for cutting and pasting respectively, to CTRL-P to print documents and CTRL-S to save documents. Knowing these crucial shortcuts will enable faster productivity.

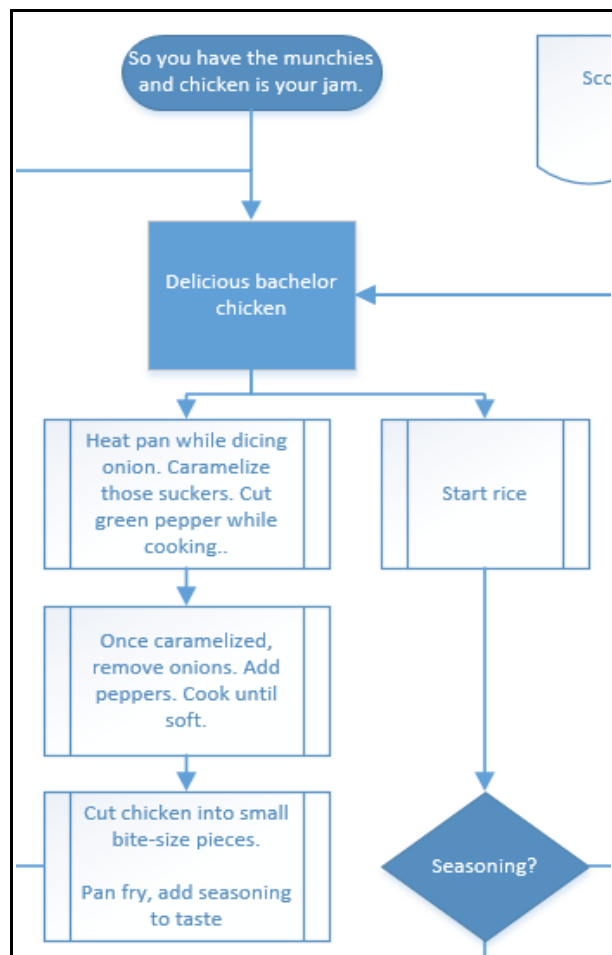
Visio and Word allow for charts and graphics to be implemented by navigating the little tabs at the top of the page. Exploring these options will take some time and I recommend a public demonstration for you and your staff on this. One aspect of Microsoft word I would personally enjoy seeing improved would be the ability to manage charts and graphs and a simpler way. Currently the options are easily accessibly via right click but they often do not interact in a way that one desires.



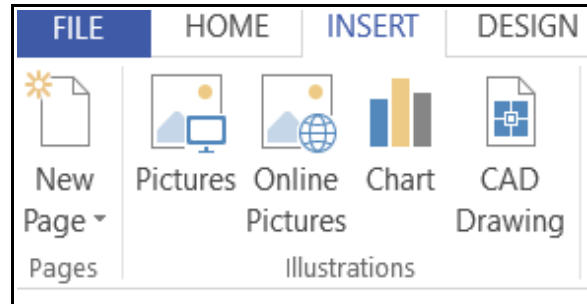
To create a flowchart, simply drag the selected option from the Shapes tab onto the page. In order to connect these pieces together, simply draw a line from one segment to another via the “connector” tool located at the top of the page. Your starting point denotes the direction of the arrow.



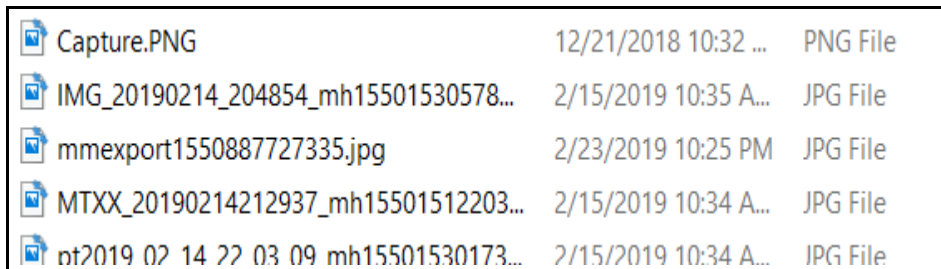
Here, on the left side of the default layout is the Shapes tab. In it you can create small bubbles for your flowchart. Processes are base operations or subjects. Such as the below “Delicious Bachelor Chicken”. Decisions are choices, where paths diverge. Subprocesses are the consequence of the subject or decision.



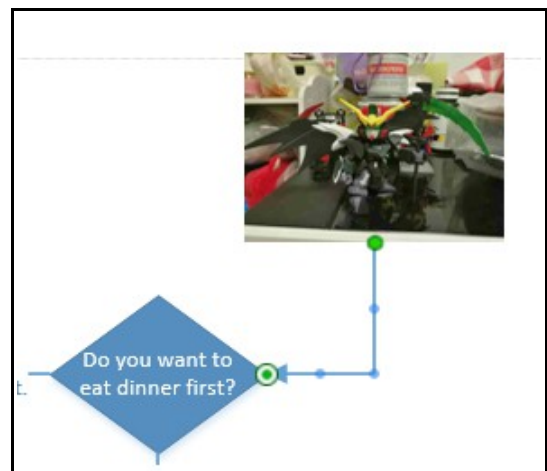
Adding pictures to Visio is just as simple as Word. To do so simply go to the Insert tab located here. You have multiple choices from inserting pictures, to pictures from the web, a CAD drawing, or even a chart using data from another file.



Select the file you wish to insert.



And pop. There it is. You may even connect them the flowchart via connectors. Again the starting point is determine which way the arrow will face.



Another option exists as well for adding pictures.

Just like in Word you can drag and drop pictures into the page from almost anywhere.

Database:

Your Databases in Access are key components of your operation. It holds the metadata from numerous aspects of your business. Such as manufacturers and their locations, zipcodes, and of course names. It also holds record of each line of clothing you are putting out like your popular flipflops, womens apparel, and that sweet “GQ” shirt. Along with listing names it states each items price in both retail and wholesale. Another table you may have noticed is the Retail stores. It lists each outlet you are operating and their location. Currently they are all inside the united states so there is no need to list their country.

The design view allows you to better customize each field of your table when adding new fields with which to catalog or search from. Such as whether or not that field is allowed to be blank during a lookup, whether the text is aligned and how, the overall format, and of course the field size and default value. Another aspect of design view is the ability to change the the displayed value of an item within a cell. Observe this picture and note the “retail price” section.

Clothing Item	Color	Manufacturer Name	Wholesale Pr	Retail Price
Flip Flops	Tan	Dusting Shoes	\$15.00	25
Men's Button Shirt	Gray	GQ Shirts	\$13.00	55
Men's Fidora	Black	Zen Clothes	\$17.50	52
Men's Jeans	Jean	Wholesale Threads	\$21.00	90
Men's Slacks	Blue	Blue Manufacturers	\$20.00	65
Men's Tank	Orange	Aspen Clothes	\$11.50	23.5
Polo	Red	Spirit Clothes	\$15.00	52.5
Silk Blouse	Cream	Sky's the Limit	\$27.00	81
Sneakers	Maroon	Dusting Shoes	\$16.00	60
The GQ Shirt	Red	GQ Shirts	\$22.00	79
Women's Cardigan	Purple	Zen Clothes	\$23.00	72.5
Women's Jeans	Jean	Blue Manufacturers	\$22.50	75
Women's Shorts	Jean	Sky's The Limit	\$20.00	50
Women's Sneakers	Purple	Dusting Shoes	\$22.00	60
Women's Tank	Pink	Bruno Apparel	\$12.50	25.5
Women's T-Shirt	White	SW Stores	\$14.00	22.5
Yoga Pants	Black	Wholesale Threads	\$18.90	45

Now, within design view you are able to modify the displayed value, as stated above. Such as the value as a raw integer above to a numerical dollar(USD in this case) below.

Clothing Products				
Clothing Item	Color	Manufacturer Name	Wholesale Pr	Retail Price
Flip Flops	Tan	Dusting Shoes	\$15.00	\$25.00
Men's Button Shirt	Gray	GQ Shirts	\$13.00	\$55.00
Men's Fidora	Black	Zen Clothes	\$17.50	\$52.00
Men's Jeans	Jean	Wholesale Threads	\$21.00	\$90.00
Men's Slacks	Blue	Blue Manufacturers	\$20.00	\$65.00
Men's Tank	Orange	Aspen Clothes	\$11.50	\$23.50
Polo	Red	Spirit Clothes	\$15.00	\$52.50
Silk Blouse	Cream	Sky's the Limit	\$27.00	\$81.00
Sneakers	Maroon	Dusting Shoes	\$16.00	\$60.00
The GQ Shirt	Red	GQ Shirts	\$22.00	\$79.00
Women's Cardigan	Purple	Zen Clothes	\$23.00	\$72.50
Women's Jeans	Jean	Blue Manufacturers	\$22.50	\$75.00
Women's Shorts	Jean	Sky's The Limit	\$20.00	\$50.00
Women's Sneakers	Purple	Dusting Shoes	\$22.00	\$60.00
Women's Tank	Pink	Bruno Apparel	\$12.50	\$25.50
Women's T-Shirt	White	SW Stores	\$14.00	\$22.50
Yoga Pants	Black	Wholesale Threads	\$18.90	\$45.00
*				\$0.00

Queries within access can display many things as well. In this case it will show a stores name, and the product being sold there and for how much.

Clothing Products				
Retail Purchases				
Retail Store Name	State	Manufacturer Name	Clothing Item	Retail Price
Blue Threads	TX	Dusting Shoes	Flip Flops	\$25.00
Elden Clothing	CO	Zen Clothes	Men's Fidora	\$52.00
Legacy Clothing	CO	GQ Shirts	Men's Button Shirt	\$55.00
Men's Apparel	FL	Wholesale Threads	Men's Jeans	\$90.00
Reynolds Jeans	WA	Aspen Clothes	Men's Tank	\$23.50
Shoes For You	CA	Blue Manufacturers	Men's Slacks	\$65.00
Simplicity Apparel	SC	Aspen Clothes	Men's Tank	\$23.50
Timber Boutique	AZ	GQ Shirts	The GQ Shirt	\$79.00
Women's Apparel	GA	Bruno Apparel	Women's Tank	\$25.50

Java

I have modified the code as you requested. I will explain how it works if you should desire to alter it in the future without my assistance. To create a new line of text simply create a new line and enter the following information: `System.out.println(“”);` Do not alter this and input your text inside the “” marks. Day month and year are functions that store and output numerical data. The functions are created and the following lines add values to those functions. In this case the date. For your needs you should not touch these pieces of code.

As instructed I have changed the code to read “Today's” instead of “current”. I have also added the requested line of text with a little lighthearted liberties to give your employees a giggle in the morning. Here is what it will look like when an employee starts their computer.

```
let time, size, mem, used mem;

```

```
Welcome to Swagger Distribution. The swaggiest distributor around.  
Today's date is 3/18/2019
```

Networking:

So your current network topology is laid out in the graph, but I will summarize it for you. Your offices have their own personal LAN that connects them via physical wire to the crosspatch panel. From there it goes to the ethernet switch and then to the warehouses via very long fibre cable, the servers to access secure data, or to the WAN. Your warehouse computers go through a similar process.

Without knowing the distance between the two buildings, potential interference, and other details I have outlined below a potential method to allow your warehouse computers and your office computers to wirelessly interact. We will need 802.11 rated B or N class wireless routers. My method involves using radio to connect the two buildings.

Web Presence:

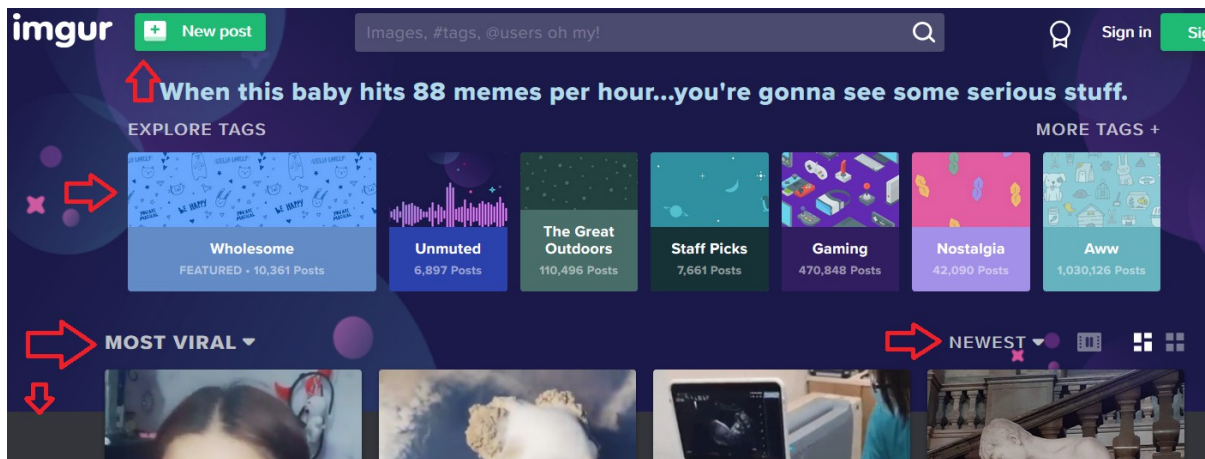
Swagger industries needs to update its swaggy website because the entire world operates online. Whether anyone wants to admit it if you want your business to grow beyond the small town or city block it starts in it needs a presence on the web. The following is a list of crucial aspects to address when creating/updating a website:

- Your domain name. Everything begins with the domain name. If your address is complicated people trying to navigate to it will have difficulties.
- Simple navigation. Once at your website users will have to navigate it. If it's unruly or awkward then users may be turned off from looking or worse buying your products. If a button says 'contact' it had better take you to a page where they can contact the company.
- Search functionality. As your business will gain an online presence and house a wide selection of items it's all the more crucial that there be a search bar so a user can quickly navigate to that item or list of items.
- Readability and color pallet. This is a fashion company. It stands to reason that none of you need my assistance with this but its crucial that the colors compliment and blend with each other for the users viewing experience to be a pleasurable one. Garish and bright colors such as neon green background over black text will turn off everyone and make your website look terrible.

- CSS. It stands for cascading style sheets and goes hand in hand with HTML built websites. Without it coding your website to look presentable is a drudging task that will take infinitely longer and cost you more money. Additionally when changes need to be made it must be made to every single user of it on the website. CSS allows you to create a small package of code with a name, and when you use that name in an HTML sheet it calls up that whole code to use. Very handy.
- SEO. Search Engine Optimization. If you can't be found then your website is pointless. To make your website SEO'd you need to add the right keywords to it so it will crop up on a standard users search engine.
- Security. If you're going to run a store online this is a must. You will be handling peoples personal data. Respect it.
- Form validation, for online shopping. When paying or inserting personal data it needs to be the right value or it will mess with the databases that store it. Wrong input could lead to disastrous problems for you and your business.
- Mobile device adaptability. If it can't adapt then you need 2 websites. That's double the work. Everyone uses mobile devices now to view websites and they want it to look relatively the same as the normal desktop version. Proper implementation of this is will go barely noticed by users but improper will net you a lot of extra complaints.

- Social media integration. While not a major aspect of a website a large number of people enjoy being able to link their accounts of various websites to existing accounts such as facebook or twitter. To deny them this gains you nothing and adding it costs little.

Imgur.com is a website that uses a simple navigation system as well as a readable color palette. It's major colors are two shades of dark gray and a dim green. They are very soft on the eyes and allow for one to continue navigating the website for a long time. The site's navigation is trivially simple with their entire content being on the landing(index) page when you access the website. With the ability to search for specific 'subs' a simple search away. Sorting the pictures is as simple as pushing a button as well.



second example is wikipedia.org. It uses Mobile device adaptation and a solid search function very effectively. The mobile platform version of the website looks nearly identical to the desktop. That's perfect for any reliable business. Their search function is of course perfect as their entire purpose is to be an easily navigable database.



Security:

In a business, no matter what it is, security is the most important aspect for retaining trust from employees or customers. Whether its guarding secrets for your next project, an existing project, or your customers vital personal data. Here at Swagger you have no protection what-so-ever. This needs to change if the business is going to try and reach to bigger heights.

A couple suggestions to empower your digital security are thus: Adopt SSL certificates. While basic, they will provide a solid foundation to build from and often simple basic checks like this are solid to deter most threats. Secondly, a each computer needs to be outfitted with strong firewalls and other security measures to protect the heart of the business. If the heart is safe the rest has a better chance of survival.

One example of poor security that happened some years ago was SONY entertainment lost millions of users personal data such as credit card information, addresses, names, etc. This could have been a voided if they had managed their employees access to malicious software better, or kept their computers more up to date defensively speaking.¹: IP address and DNS.

IP stands for “Internet Protocol” and serves to inform of your local hosting identity or your address on the internet. There are two versions in circulation. Ipv4 and Ipv6. The former is done in 32bit, and the latter 128bit. The latter exists due to an ever shrinking pool of available Ipv4 numbers. The DNS is simply a large registry of domain names. It converts the domain name we type into an IP and loads a web page.

2: Server and Client.

A server is a piece of hardware that runs a network that one can connect to. A server functions as a form of cloud storage where one can access information from anywhere should they be able to connect. A client is a user who connects to a server.

3: VPN

A VPN is an encryption method to disguise your IP address from anything that could look it up. It stands for “virtual private network” and is a service a user connects to. From there the user may visit any website or service and anything that tracks an IP address will think the user is from the servers location.

4: Firewall

A firewall is a defense system for your computer against potential threats like viruses, malware, and adware. It detects threats and either erases them immediately or halts the process, warns the user, and awaits a command from them. Notable firewalls are windows defender and avast.

5: LAN vs WAN

A LAN is a “Local area network” and a WAN is a “Wide area network”. The difference between them is that a LAN connects several computers in a small area with a highspeed and cheap connection. A WAN alternatively is not restricted by any proximity. Offering connection from different states or even countries. It connects several LANs into one super connection and is quite expensive.

Home Network:

This home network your standard affair. There are multiple devices wirelessly connected to the router. Who receives information that gets vetted through the router or modems firewall from the internet. This information is accessed either wirelessly or by way of ethernet cord from the router.

Additionally, this router serves as the LAN for this household and the devices are able to communicate with each other through it without need of internet access. Some devices that access the router connect to other devices in order to do so. In this case a digital camera is connected the laptop in order to spread information over the home network.

Relation, importance, and conclusion:

Now, it may be thought of that some of all of these pieces discussed above may be unrelated to each other or unimportant enough to omit some when changing up a business. Yet as stated several times through example and other means each one of these pieces does in fact connect and aid the bigger whole. Having a solid website is pointless if one can't access it, owning a database full of company products, customer and store information, and other sensitive documents is dangerous if it's not protected. These things are also useless if there's no where to store them!

Employees who don't understand how to use the software that's crucial to their job will waste time and money. To omit their training or burden them with requiring too many varying and inconsistent programs does a disservice to everyone.

To give a perfect example. In Swagger, a new clothes line is going to be launched. The employee needs to add this product to the website, and the Access database. Yet they don't understand how access works, and can't figure out how to make modifications to the website. In their efforts to get their work done they accidentally delete several articles of clothes and an entire sales record from one store. While accomplishing nothing on the website. Flustered, they leave the computer as is to go and get help. While gone someone comes and is granted unlimited access to things they should not have due to forgotten security protocols, or worse, none were ever implemented. This is just one of many could-be examples as to why each piece is a vital part of the whole that is technological awareness.

While valuable to train, it's equally important to routinely seek new information. What good is security if its outdated? Hackers and would be thieves are always inventing new ways to steal what they want. Software developers are constantly innovating and bringing products to new and useful heights. To stay cutting edge is to be ready, and prepared.