Beyond Excel & PPT – Visualization Tools for MBAs

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Overview

The following summary introduces several freely available visualization tools to express ideas and build wireframe prototypes. Don't just read; download and try the tools.

Use Cases

Whatever one can do to better communicate ideas or produce clearer concepts will give her a big advantage in the technology space. Often, the experts responsible for creating mock-ups or building prototypes are professional designers. However, many free tools can help business managers emulate or kickstart outputs to be generated by professional designers. Following are some examples:

***You**: "So, based on the personas, we're thinking we should redesign the the lecture page to include an audio playback with a prominent button."*

***Them**: "What do you mean when you say prominent?"*

***You**: "You know, it's green here, blue there, and box here, and stuff."*

***Them**: "No idea what you're saying. Why don't you just show us? Oh, by the way, tell me how the audio play button should look like?"*

***You**: (start scribbling with pencil.) 'Hmmm … not going so well, maybe I should sit down and visualize it more and get back to the team.'*

The following table and chart list several types of visualization tools that serve different kinds of need. (Google for more.)

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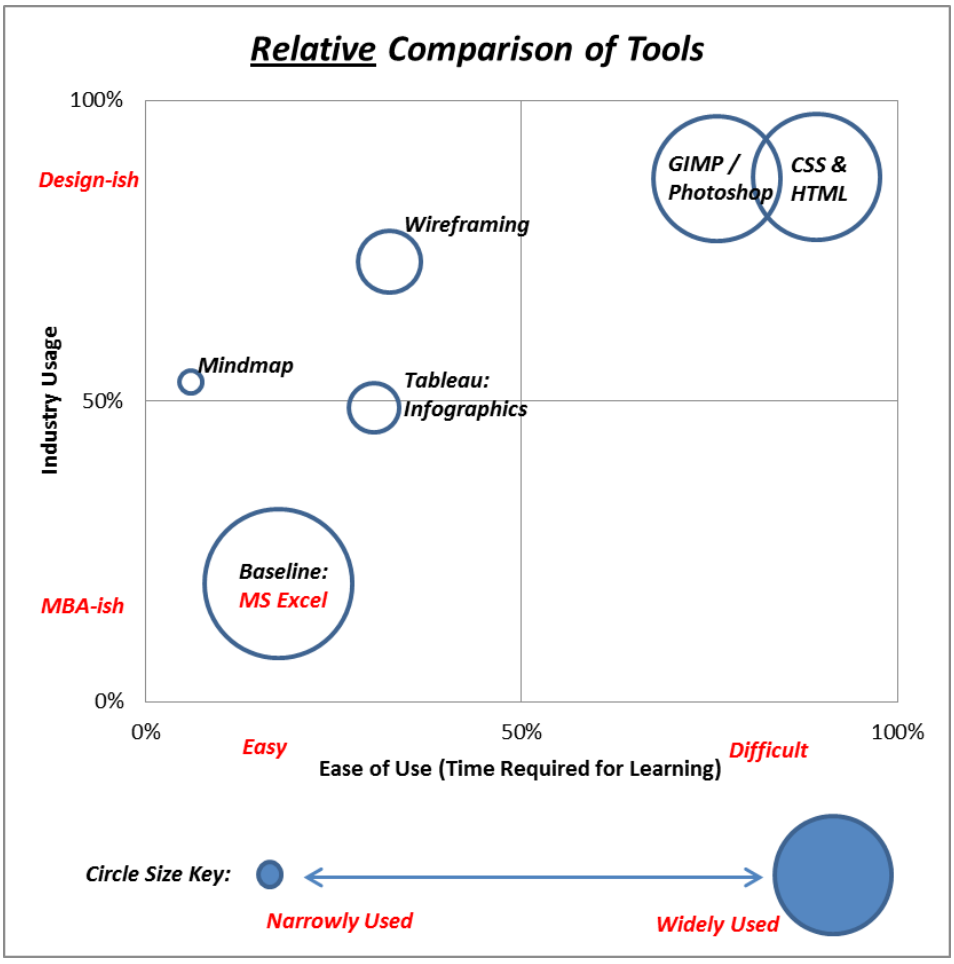
Table 1.1. Visualization Tools and Links

Tool Name	*Download URL*	*Typical Usage*
FreeMind mind map	http://freemind.sourceforge.net/	To visually outline information, to map related ideas from brainstorm
Wire framing tools - several	http://www.balsamiq.com/ http://lumzy.com/ http://mockupbuilder.com/	To conceptualize and visualize products or services; assist first pass at prototyping
GIMP (equiv. Photoshop)	http://www.gimp.org/	To edit graphics; to create high-quality mock-up prior to web development. (Open-source version of Photoshop.)
Inkscape (equiv. Illustrator)	http://inkscape.org/	Vector graphics editor – to supplement GIMP/Photoshop work. (Open-source version of Illustrator.)
HTML/CSS frameworks	http://getbootstrap.com/ http://www.wix.com/	To directly wireframe website; HTML is the structure, CSS is for styling
Tableau	http://www.tableausoftware.com/public/	To create infographics or organize spreadsheet data beyond Excel charts

Chart 1.1. Relative Comparison of Tools

This is a somewhat aribitrary classification of the tools shown above as imagined for a typical non-technical business manager (i.e. second year MBA students).



Source: Author

1a. Photoshop/GIMP

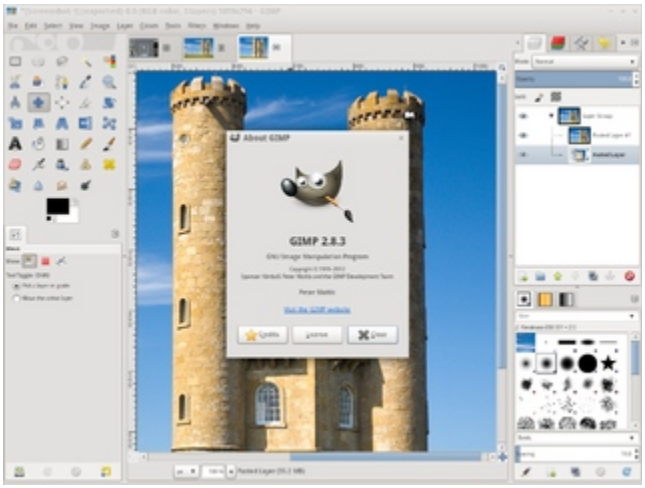
What is it?

- It is a graphics editor. Adobe Photoshop is expensive. GIMP is a free version.

Why use it?

- Ability to create high-quality mock-ups (for web developers) is a valuable design skill.
- To create logos and icons.
- To mock-up user interfaces or other graphic designs.

Example:



Source: http://upload.wikimedia.org/wikipedia/commons/thumb/9/9b/GIMP_screenshot.png/320px-GIMP_screenshot.png (Wikimedia free license)

Example:

It can be used to design and create logos or icons for a wireframe you might be building.

Source: Author. An example to demonstrate GIMP tool's capabilities – notice the gradients and textures in this image asset.

1b. Illustrator/Inkscape

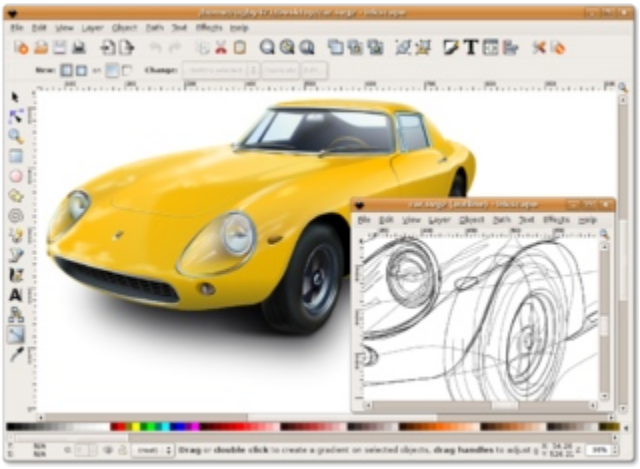
What is it?

- Vector graphics tool.
- Use in combination with GIMP for best results.

Why use it?

- It's especially useful for dealing with paths and complex shapes that Photoshop/GIMP cannot easily handle.

Example



Source: http://upload.wikimedia.org/wikipedia/commons/thumb/8/8d/Inkscape0.45.png/320px-Inkscape0.45.png
(Wikimedia free license)

2. Wireframing / mock-up tools

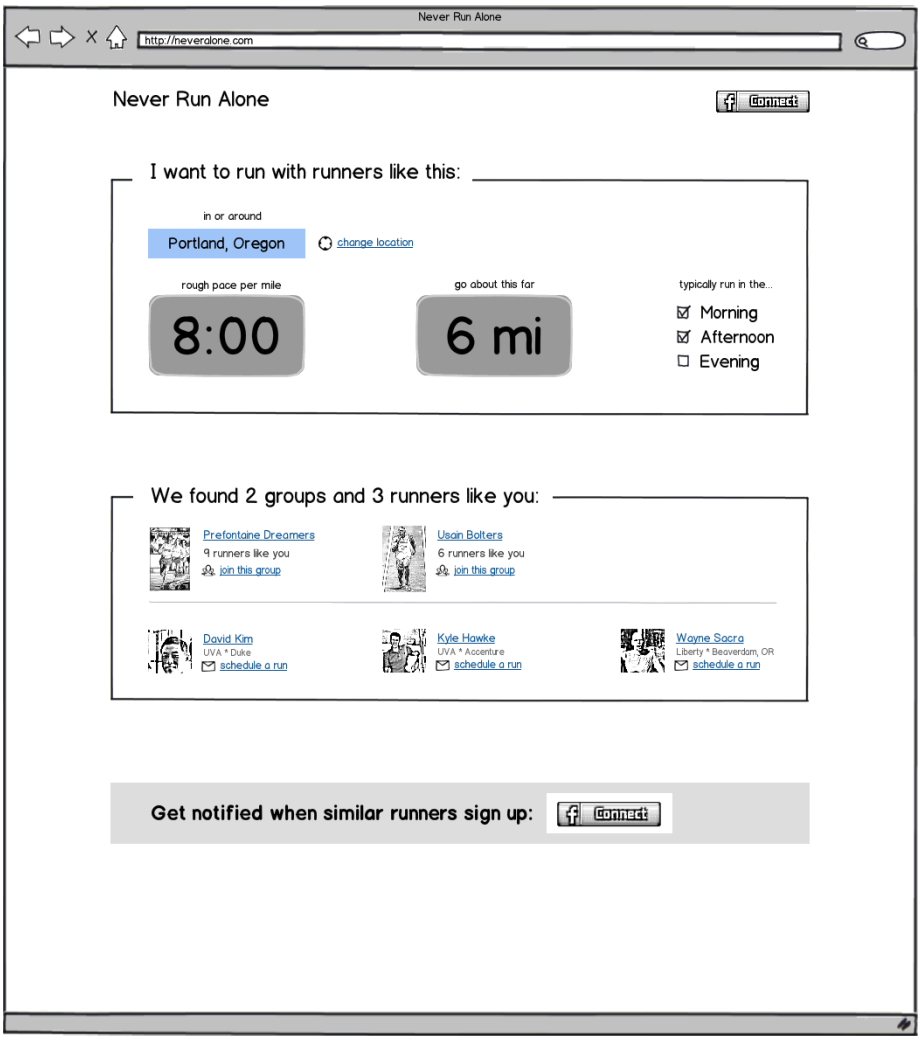
What is it?

- Tool to create mock-ups of sites you want to build, or interactions you envision (just use person icons)

Why use it?

- Sometimes, you don't need a high-quality mock-up. Good to for generating a ramen-noodle quick version of what you envision.

Example



Source: Kyle Hawke (Class of 2011)

The above example was built using **balsamiq** by a friend for a group running search web page concept. It took him just a few minutes! Great way to get the dialogue started about a project!

3. Mindmapping or just get a sketchpad

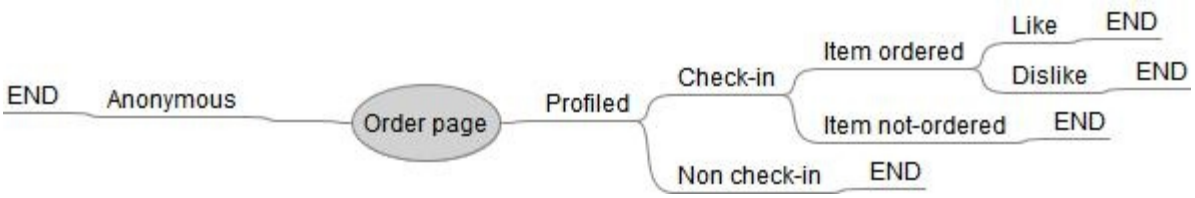
What is it?

- A way to map out your thoughts, or the team's roadmap

Why use it?

- Sometimes a useful alternative to post-it notes; can quickly group and re-group related ideas.
- It could also be used as a way to visualize decisions, or tree map of possible paths for the product.

Example



Source: Author

You: “So easy to do! So fun! Why aren’t you mind-mapping? Haven’t you heard? It’s what the cool kids are doing!”

4. Learn HTML/CSS & beyond

In the software development world, some base level of technical competency or comfort is very much expected. Usually, the basic entry point is to be familiar with basic HTML/CSS and how the markup renders in a browser. Supplemented with the ubiquotous programming language called “JavaScript” (not Java!), the combined skill is a basic qualification for what is known as a “front-end” developer.

In English, it means building the parts of the web-sites that customers see. (If you’re curious, the rest is commonly known as the back-end, and primarily involves designing and building how user data is stored and how it persists (which involves building models and controllers, and connecting to databases). That said, learning a basic mark-up (HTML is a markup language) and web styling skill (using CSS rules to manipulate a way the webpage looks) will allow you to mock-up a web page or a mobile app. This gets you a little bit closer to the world of building an online prototype. It will earn you slightly more respect with software engineers, and also give you the confidence to actually start building things yourself without becoming overly dependent on other professionals.

There are myriad of web learning resources. Also, because much of HTML/CSS can be somewhat of drudgery, there are many existing frameworks to make building pages easy. Twitter Bootstrap is one such framework.

- Some businesses have abstracted even the need to work with the actual elements of HTML and CSS. For example, blog sites like Tumblr simply allow the user to generate a look and feel based on existing themes.
- As you move up the customization chain, you might try something like wix.com, which is a tool to let you start building websites – as easy as starting a blog, because someone else has done the hard work for you.
- Of course, the higher up the customization chain you go (e.g. writing CSS directly), you trade off convenience for control.

4b. Let's pull it all together

a) So, let's say you have an idea for a product or a service. You use tools like **Balsamiq** or **Mindmap** along-side post-it notes to generate ideas and imagine some possibilities.
b) After that first brainstorm, you would like to see a next-iteration mock-up to be able to show your concepts more concretely. Let's say, you started your website or concept design using wix.com.
c) But, let's say you want to tweak the page elements very tightly, meaning you want to create your own frames or alter button shades that are not available, etc. You may need to learn to tweak the **CSS/HTML** of that page. This is where basic knowledge of CSS and familiarity with using something like Bootstrap comes in handy.
d) But, let's say you're even more concerned about how the page looks, and want to start creating custom typography or custom icons. This is where **GIMP/Photoshop** comes in. (*Ideally, you would like to have someone do that work for you, but you might be constrained as to time or budget, so it is useful to be at least aware of thes tools.*)
e) Now, let's say beyond mocking up the page, you want the thing to actually let users sign up and post comments, etc. This will require you to share your design concepts with a developer. This is where the mock-up/wire-framing tools and Photoshop comes in handy. It will not only show the potential team member that you are serious and have done some upfront work, but also give you more confidence in speaking to a technical team member.

5. The 4-Hour Workweek* approach

For the experimental thinkers …
There are ways to borrow work of others and/or delegate your design work. Let's say you want some design work done and want to find someone to create a logo for you. Here are some options, but unlike the above options, this may involve $ investment on your end. Know the value of your time!

- Hire a TaskRabbit – it's a classified for skilled labor (you specify the skill), currently available only in certain cities.
- Borrow ideas from design sites – 99designs.com, Behance.com, Dribbble.com.
- Try a fiverr.com. For just $5, you can hire someone to do some basic work for you – maybe you can hire a simple logo or image asset design work on the cheap this way for starters.

** Based on the eponymous book by the author and hacker Timothy Ferriss*

Additional Learning Resources:

Never stop learning. Even if your goal is not to become more technically adapt, you may find these topics interesting and worth learning on their own.

Many Tech companies aggressively recruit two types of talents: Software Engineers and Designers (both UI and UX). There are myriad of free online resources that will help you sharpen your design sensibilities and expose you to software engineering skills.

Explore MOOCs (massive online open courses):

- Coursera
- Udacity
- edX

Try some coding:

- http://tryruby.org/ (by Code School)
- http://www.learnpython.org/
- and more … just google: Python, Ruby, and JavaScript are all good entry languages for new-comers.

Technical product management:

If you are more focused on technology product management, please consider the following resource (in progress and open for your comments and suggestions).

- techproductmanager.com

On Software and Resources:

Marc Andreessen famously asserted that "software is eating the world." This is the case even in non-software applications like hardware and embedded technologies (smart home, smart car). For the truly resourceful, please don't forget that there is a computer science departmnent at UVa and bunch of smart undergrads. Among the recent CS grads have included luminaries like the founder of Reddit.com – Steve Huffman.