



TOOLKIT SECTION 5.

Digital /Visual Tools for **COMMUNICATION, PRESENTATION + REPORTING**



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5. Digital/Visual Tools for Communication, Presentation and Reporting

In today's online and visual world, any job or trade you train in will rely on visual communication.

From safety handbooks in the warehouse to infographic reports in the boardroom, being able to communicate effectively with visuals is something every engineering professional relies heavily upon.

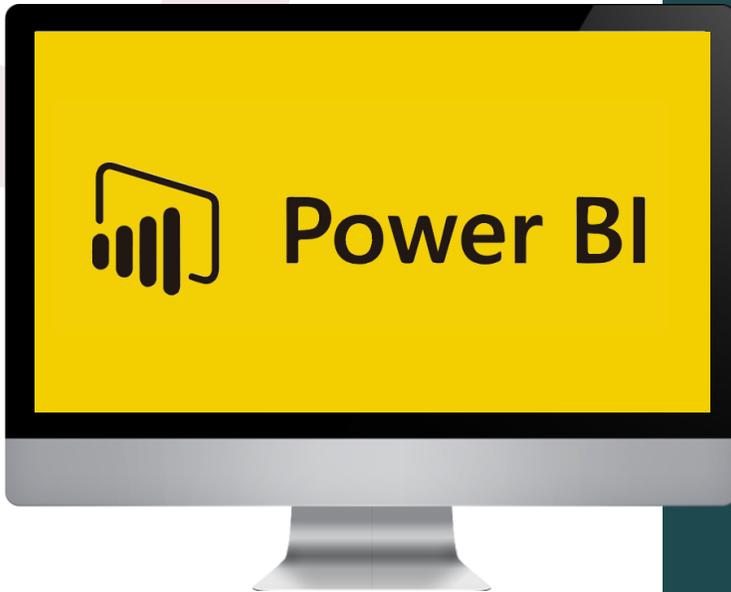
- 1 Microsoft Power BI
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Microsoft Power BI “In a Nutshell”

Power BI is a very popular, professional and easy tool to reporting and data analysis. It can be used for multi-level data analysis in almost every sector of the enterprise, and for combine, process, analyze and report any type of mass data. Power BI was designed by Microsoft company. There exist many versions of Power BI, dedicated for different devises and client’s needs.

Power BI is applicable also in other fields for example in engineering, to monitor and optimize production processes. You can find more information about Power BI on official [website](#). There are subscriptions, box versions, online services, desktop and mobile versions. The desktop version is free, so it can be convenient and low cost option for students.





Microsoft Power BI Advantage

- Simply in use
- Fast working
- Many versions
- Many visualization tools
- AI implemented
- Free basic desktop version
- Easy installation
- Free data samples
- Many free tutorials



Microsoft Power BI Disadvantage

- Low stability of mobile versions
- Only few language versions
- Advanced data transformations require programming knowledge

Microsoft Power BI Feedback/Insights

*“ No matter what the source is,
users want to report in Power BI and
One of the biggest advantages of Power BI
is [that] it’s a tool that fits in all spheres of
expertise, from a business user to BI experts
and data scientists as you can do basics to
advanced solutions ”*



Yash Nannoolal, Engineer, Nedbank

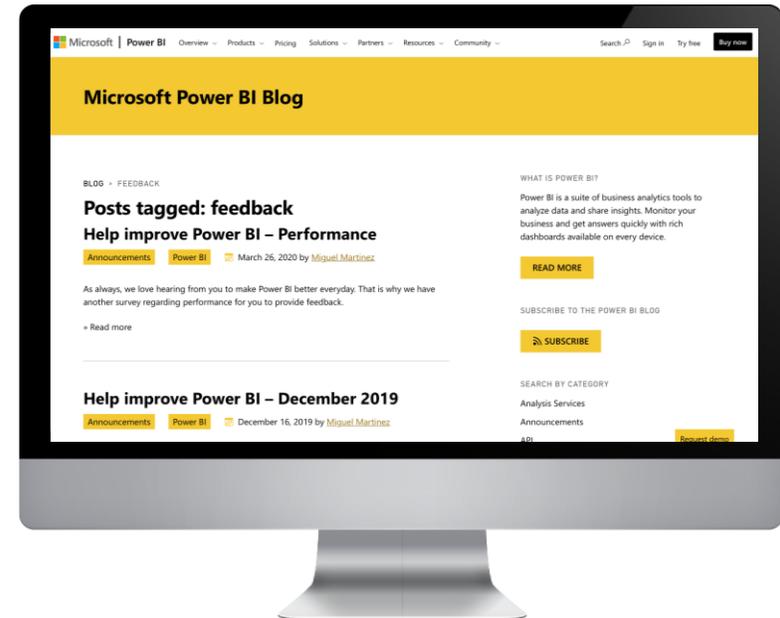


Microsoft Power BI - In Action



Your data warehouse is accessible and available for business and report users but how do you effectively tell a story using all that data?

https://www.youtube.com/watch?v=E8Mz18i_po4



How do you unlock the secrets and the potential your data has? How to effectively tell a story with your data and Power BI

<https://powerbi.microsoft.com/en-us/blog/tag/feedback/>



Microsoft Excel “In a Nutshell”

Excel is the greatest and most popular spreadsheet in the world. This program offer many functions and is useful for both: novice and advanced users. Excel can be used in many fields, e.g. in engineering, production processes, business, data analysis, science (mathematics, physics, economics) and many others.

There are two main versions of Excel - desktop version and online service Excel 365. This second solution has definitely less tools than classic version but customer can use it in any time and place in the world on one condition: he must have connection to Internet.

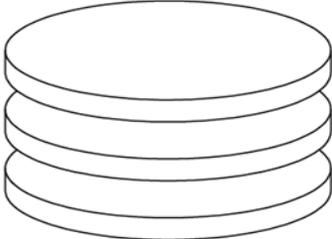
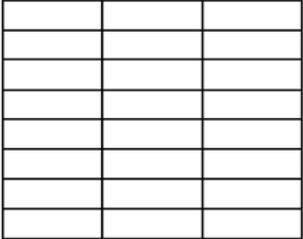
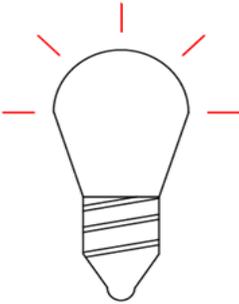
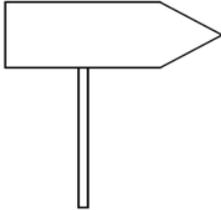
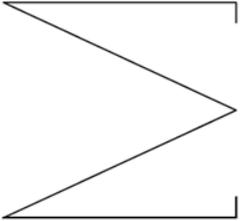
You can find more information about Excel on official web site: <https://www.microsoft.com/en-us/microsoft-365/excel>





Microsoft Excel “In a Nutshell”

It also can be a substitute for many types of software e.g.:

			<pre>010011101000 110011101000 001010100110 100100111101 110011010100</pre>
database	spreadsheet	visualization tool	business intelligence
			
design	planning and organization	computational models	





Microsoft Excel Advantage

- Flexible
- Compatible
- Universal
- Stable working
- Constantly improved
- Very extensive
- Interdisciplinary applications
- Many free tutorials and online training materials
- Good price
- Mobile version available



Microsoft Excel Disadvantage

- Weak support
- Advanced tools require experience
- Several formula languages

Feedback/Insights

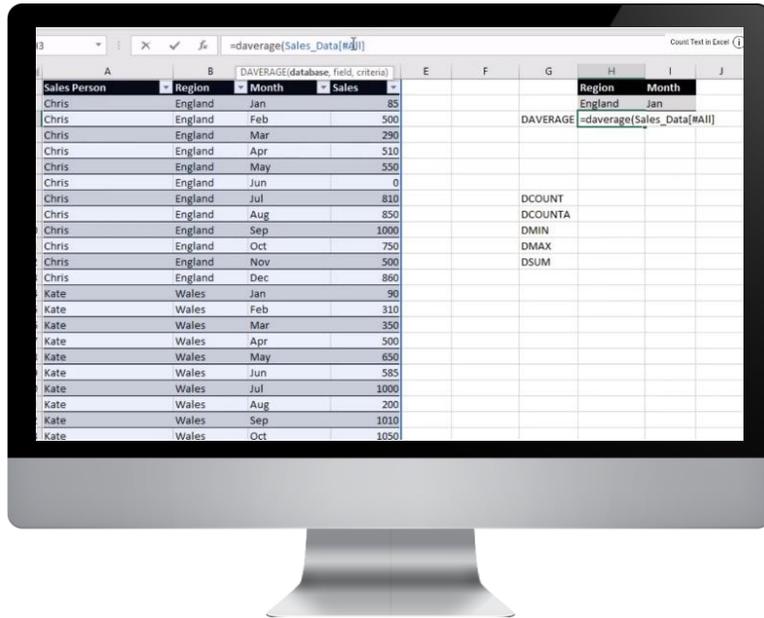
“*Excel is the type of tool where it is difficult to find a problem. The infinity of resources and the computational capacity of this tool make it, without a doubt, the best solution for your spreadsheets, graphs and other data analysis. You can analyze data in a fast, functional way, with automated graphs and powerful functions. It is the tool that I use most surely*”



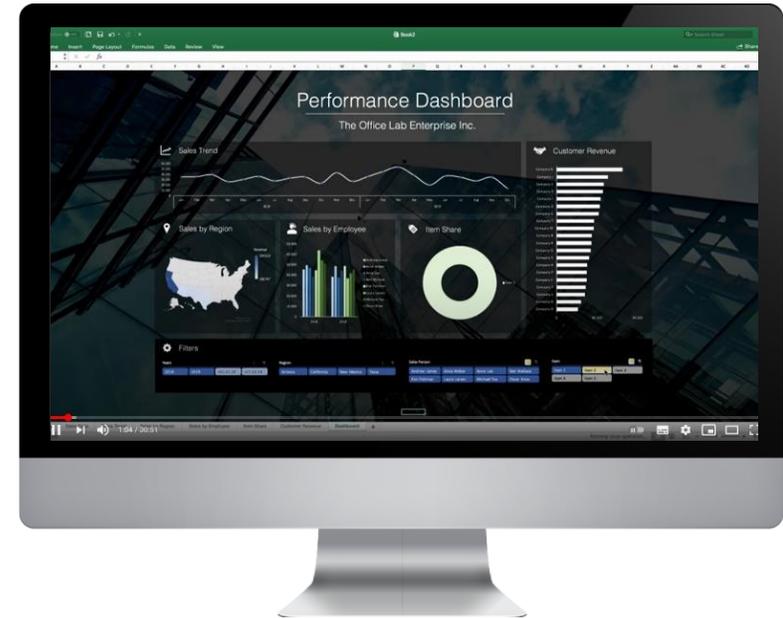
Rafael Coffi T. - Researcher Engineer.



Microsoft Excel - In Action



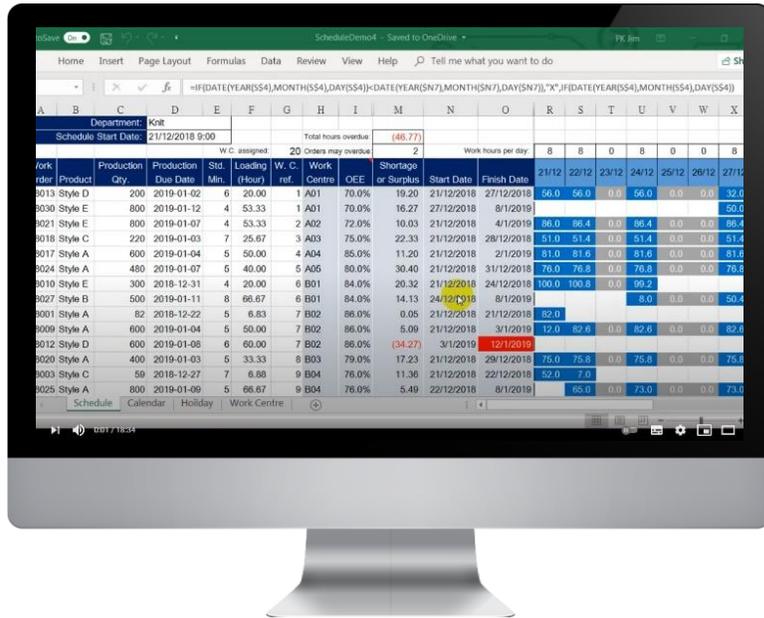
Creating a Database in Excel -
www.youtube.com/watch?v=91HzoJFNUY



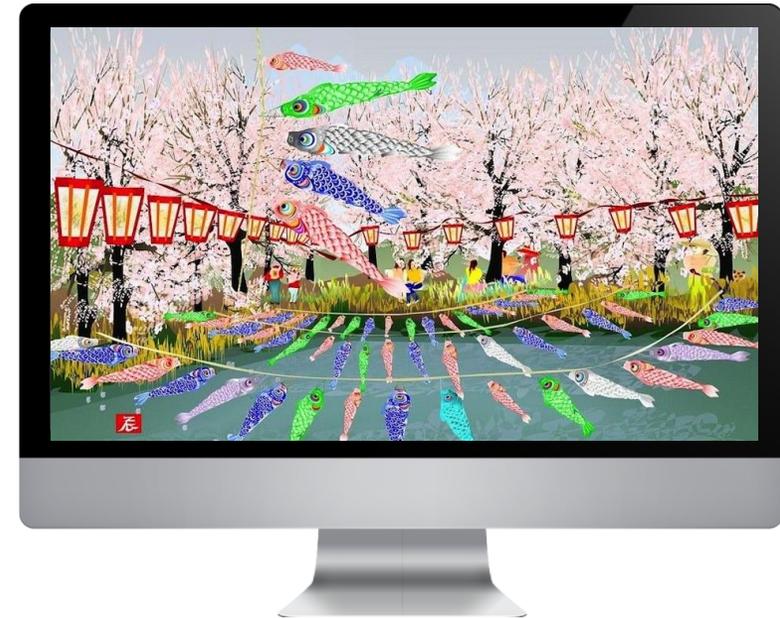
Excel as a BI tool -
www.youtube.com/watch?v=20zDV9MNEOs



Microsoft Excel - In Action



Production planning in Excel -
www.youtube.com/watch?v=Qt7bd9anxYE



Excel lets you create more creative things. You can paint paintings like Tatsuo Horiuchi.
<https://news.microsoft.com/pl-pl/2017/06/27/o-tych-3-zastosowaniach-excela-na-pewno-nie-slyszeliscie>



Canva “In a Nutshell”

Canva is a really simple-to-use tool for producing basic and animated graphics and videos. It is a powerful tool for visual storytelling and can be easily customized with a choice of fonts, backgrounds, frames and more. Canva is a really impressive suite of graphic design tools available on the web as well as Android and iOS. You can use it to create visual stories that can be delivered in a number of ways for example via social media posts, video, newsletters and more.

We particularly like Canva because it is easy for beginners to grasp and the [Canva Design School](#) has lots of learning resources to help you make the most of this tool.





Canva Advantage

- Great font/template options
- More organization and storage
- Lots of features - Photo editor, Transparent backgrounds, Automatic resize, Save your brand/favourite font and color scheme
- Affordable



Canva Disadvantage

- Limited free icons (\$1 per icon/picture)
- May need tutorials to get started

Feedback/Insights

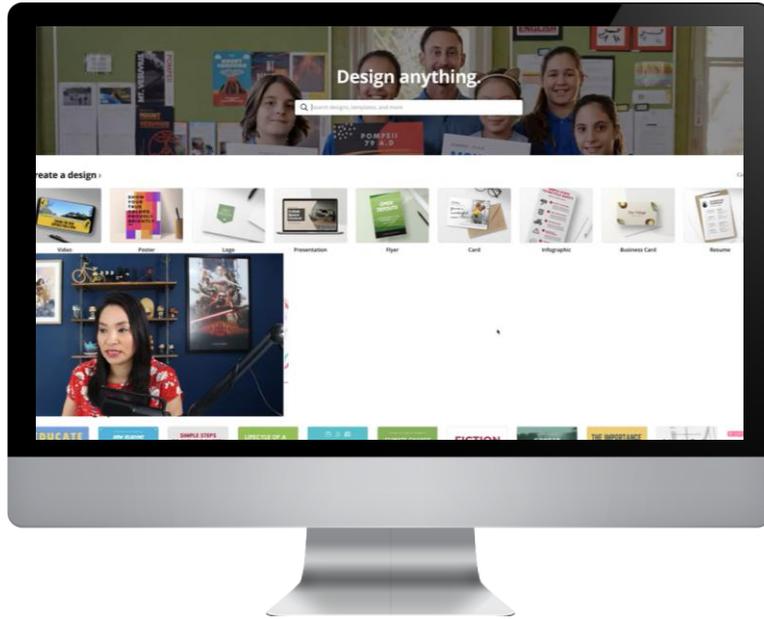
“ *At the university, I use Canva to design educational, marketing and other support materials for the classroom (both online and in-person). Additionally, as a freelancer I use Canva almost everyday to do mock-ups, presentations, logo designs, letterheads and resume templates.* ”



Kathleen M Jarchow - Online Course Designer and Professor



Canva - In Action



Canva for Education - How to use Canva as a teacher and educator with students

www.youtube.com/watch?v=rmV6EfDvSdk



Canva Presentation Review // Engineering Topics - Liz, a mechanical engineer

www.youtube.com/watch?v=KE1UYguH00A



PowerPoint “In a Nutshell”

Microsoft PowerPoint is a slides-based presentation tool that comes as part of Microsoft's Office 365 package. It can be used by teachers and students as a way of creating slideshows.

PowerPoint allows users to share the presentations live, in the room, as well as digitally online via a video conference interface. Students can also work through a presentation in their own time, making this a versatile way to communicate.

Advanced use of PowerPoint includes adding visual interest to your presentation that will grab the audience's attention through custom animations and transitions. Features such as effects and sounds, layered instructions, and narrated and timed presentations allow presenters to polish their slides at a professional level





PowerPoint Advantage

- Comes with in built templates and automatic design suggestions to make content more engaging and visually appealing
- Advanced features can make presentation more interesting
- Easy to customize each slide to meet specific needs
- Simple process to create follow-along hand-outs
- Affordable and widely used



PowerPoint Disadvantage

- Requires certain level of design skills – e.g. slides with too much information on them can become overwhelming
- Easy to become too reliant on this software

Feedback/Insights

“ *Microsoft Powerpoint has becomes the staple of the presentation making, and it's impossible to get by without using this software anymore. It's very easy to use, with the most intuitive user interface imaginable. Over the years, Powerpoint has evolved in to one of the most complete software out there.* ”



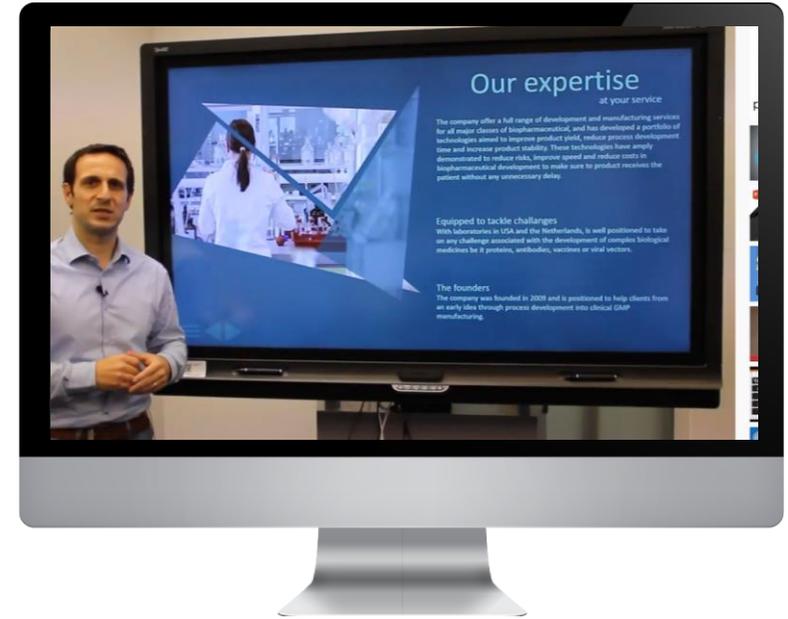
Tharindu D. – Civil Engineer



PowerPoint - In Action



How to avoid death by Powerpoint -
www.youtube.com/watch?v=lwpi1Lm6dFo



Powerpoint advanced features:
Morph
www.youtube.com/watch?v=YWxf3YeBeDs&t=12s



Fluvid “In a Nutshell”

FLUVID is one of the most advanced screen video recorders. After recording the video, FLUVID facilitates basic processing, i.e. trimming, renaming and adding tags.

It includes a **Drawing Tool, Lead Form & CTA Button, Password Protection, Crop & Trim, Social Publishing & Streaming and Advanced Video Analytics.**

Once video editing is complete, the user can save the file in mp4 format, play it on their device, share it or upload/embed it in online lessons.





Fluvid Advantage

- It is easy to use due to Google Chrome extension for easy in-browser recording.
- Gives ability to embed recorded videos on any website using the FLUVID video player.
- It allows to manage and view videos in an easy-to-use dashboard.
- It allows to download videos in mp4 format making it easy to post on any video platform.



Fluvid Disadvantage

- FLUVID (pro version) gives more features, but it is not for free.
- Deployment & support is only for: Cloud, SaaS, Web-Based, Desktop – Mac, Desktop – Windows.
- There is no deployment for Mobile – Android, Mobile – iPhone, Mobile – iPad.
- Support and training are actually not available.

Fluvid Feedback/Insights

“Enterprises or freelancers who believe in the concept of remote working are primary TG as they can harness the true potential of FLUVID features to make their work place even more productive”





Fluvid - In Action



Getting Started with Fluvid Screen Recorder, how to make quick videos from your Laptop/PC
www.youtube.com/watch?v=g8528nKEfFw



How to record system audio
Fluvid tutorial
www.youtube.com/watch?v=Ra1l0Tnjqkg



Jira “In a Nutshell”

Jira is a tool that engineering educators and students can use to track their learning progress as well as for support in project-based learning pedagogic strategies. This app allows to create user stories and issues, plan sprints, and distribute assignments across learners. Many universities can use Jira for sharing documentation as well as for enabling collaboration among students. They can perform projects assigned by their teachers and also they are able to track their progress.

As a visual literacy tool, Jira enables visual expression and fosters visual perception, and it is recommended for sharing ideas visually as well as having a visual perception of the progress of students learning.





Jira Advantage

- Great customization of processes and instances.
- Easily configurable across various teams.
- Easy to learn and use with minimal training.



Jira Disadvantage

- API-integrations could be better implemented.
- Bulk-uploading can be clumsy and require a lot of diligence to use.
- No locking feature for a case if a person is working on it.
- Lack of test and requirement management.

Jira Feedback/Insights

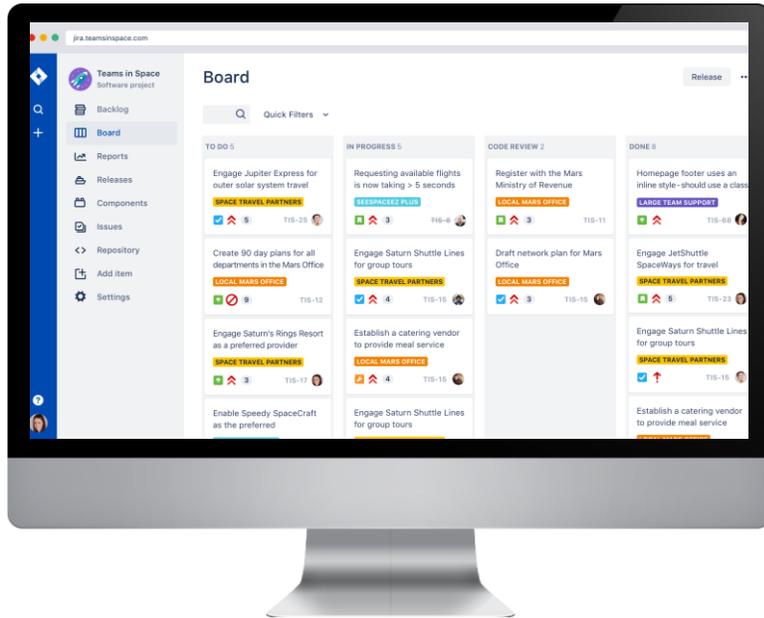
“ I use Jira to help students for software development projects. Jira can be also be used for their in-house for the personal time management of students ”



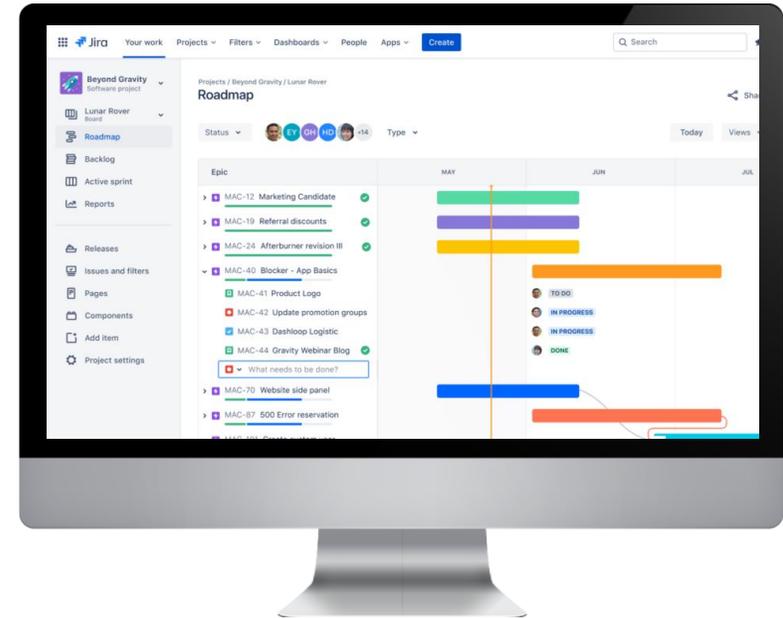
Engineering Educator



Jira - In Action



Jira's Communication potential gives many opportunities for sharing activities by educators to students. In this figure we can see an example of how we can use for assignments



We have here an example of how to use a roadmap using Jira



Thinglink “In a Nutshell”

Thinglink is a tool that engineering educators and students can use to create interactive images which include embedded audio, video and rich media links. As a visual literacy tool, Thinglink can be used to encourage interactive visual thinking and collaboration.

ThingLink interactive images help students develop 21st century skills and enrich their enthusiasm for learning. ThingLink allows you to begin with either an image from the device you're using, or from the internet. This also applies to videos and to 360-degree VR shots. Once you've selected your base image, you're then able to begin tagging. The ability to make any image or video interactive makes Thinglink of interest not only to the world of engineering education but education in general.





Thinglink Advantage

- Simple and easy to use for engineering educators and students
- Applicable to all fields of engineering as any image or video can be made interactive
- Multiple uses – can be used for presentation, collaborative group exercises, formative assessment and more
- Analytics show who interacts with your Thinglinks
- The Thinglink website has a range of 'how to' videos and articles to help you to get started



Thinglink Disadvantage

- There is no real tracking feature on ThingLink. You can, with a paid plan, get 'classroom management' and see all your learners' work in one place, grouped as you decide
- Students can only comment on ThingLink images or videos you or they create on paid plans
- Unless you have a paid plan, your profile and any content you create with ThingLink will be searchable

Thinglink Feedback/Insights

“ I recommend asking your students to work on creating their own ThingLinks, it's a great way for them to develop not only their visual literacy but also their critical thinking and digital skills ”



Geraldine L, Engineering Lecturer, Ireland



Thinglink - In Action



We love this Product Deconstruction Challenge which challenged Thinglinkers to deconstruct products and explain/explore the hidden components inside.



Take a look at some of the entries:

Deconstructed Rubix Cube:
[Rubiks cube deconstruction \(thinglink.com\)](https://www.thinglink.com/entry/123456789)



Pixton Edu “In a Nutshell”

Pixton is a digital storytelling tool with 10,000 instantly searchable backgrounds, props and characters. It helps students and educators to better communicate ideas in the fun, friendly format of comics.

Pixton is a useful, flexible platform for demonstrating learning, and the comic format lends itself to building students' thinking skills. Samples from the public gallery show a wide variety of comics for building great lessons.

For engineering students, Pixton could transform how they view literacy and even spark more engagement from a visual design perspective. It's easy to use for basic projects but also includes advanced features for those looking for more elaborate designs.





Pixton Edu Advantage

- Premade templates
- Intuitive design
- Great getting-started support
- Plenty of options for creation



Pixton Edu Disadvantage

- Limited potential for creating and uploading original graphics or custom artwork
- Templates and art depicts mostly human characters
- Limited export options

Pixton Edu Feedback/Insights

“*Pixton is a great way to infuse creativity and higher-order thinking skills through comic creation. Students get to change the setting, choose their characters, and add text. I like that when I gave it as an assignment to an advanced group of students, they needed no step-by-step instruction as they were able to jump right in and start creating. Student projects can be printed and shared with other classes or shared online*”



Rachelle W. - Digital Learning Specialist



Pixton Edu - In Action



Teaching (Practically Anything) with Comics
[www.youtube.com/watch?v= Y4Dk-NX2rw](https://www.youtube.com/watch?v=Y4Dk-NX2rw)



What can cartoonists teach engineers?
www.youtube.com/watch?v=xKOysEEPgjQ

Next up...

Section 6 – More Digital/Visual Tools for Engineering Education

