< Technology Trends

Technology Trends / User Guide Tendances Technologiques / Guide d'Utilisateur	
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This page is a work in progress. We welcome your feedback. Please use the discussion page for suggestions and comments. When the page is approved and finalized, we will send it for translation.

This **User Guide** provides the instruction necessary to upload a new technology trend briefing paper. Most of the code is written in HTML using the CSS style. The goal of this page is to provide a step by step guide on how to create a page.

Hide Detailed View

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Initialization and Configuration

Getting a GCcollab account

Before starting to code, you will need an account on GCcollab (https://gccollab.ca/) in order to create and edit existing GCwiki source code. If you have a Government of Canada email account the process should be simple. If not, a public servant with an existing account can invite using the invite button located at the top of the GCcollab dashboard.

Installing a Code Editor

Most of the code written on the technology trend page is done in HTML and CSS since they were found to be the easiest and offer a lot of versatility when it comes to styling. Therefore, it is highly recommended that you use a Code Editor for publishing the technology briefs. They are not obligatory, but they will simplify and accelerate the process. Below are three of the most popular environments and they should be sufficient. These platforms offer important tools and features such as syntax highlighting, file explorers, console, etc. Since Visual Studio Code is currently the most popular choice, examples in this user guide will use this editor, however the process is similar with others.

- **Visual Studio Code (https://code.visualstudio.com/) :** A completed editor where all the tools are available after installation.
- **Atom (https://atom.io/) :** A simple and lightweight editor where most features are available as packages and can be installed through the settings.
- **Sublime Text (https://www.sublimetext.com/) :** A classic editor offering some basics functionalities.

Initializing the Code Editor

After installing the editor, follow these steps to start creating your first file. For this example, we will be using Visual Studio Code but the process is similar on other platforms.

- **Creating a Workspace folder** : A workspace is a project folder located on your local computer that contains all of the project code. Locate a suitable directory on your computer and create an empty folder with an appropriate name (such as "GCwiki").
- **Adding the folder to the Editor's workspace** : In Visual Studio, open the file explorer located on the left or by pressing Ctrl+Shift+E. Right click on the Workspace portion and click "Add Folder to Workspace". Locate and select the previously created folder as your new workspace.
- **Creating a new file** : Right click on the project folder "GCwiki" and select “new file”. Enter an appropriate filename with an ending of ".html" such as "EN - Example.html". Use this newly created file to write all the code for the technology brief.
- **Adding the template's code** : Navigate to the template (https://wiki.gccollab.ca/Technology_Trends) page. On the upper navigation bar, select "view source" or, if you are logged in, "edit source". From there, copy and paste the template (https://wiki.gccollab.ca/Technology_Trends)'s code to your file. This template offers all the technology brief empty code.
- **Adjusting the template's code** : Before starting to publish the technology brief content, you need to adjust the template's information. All comments in the brackets "<!-- comment -->" need to be replace by the corresponding information. Don't forget to use the underscore (_) when using links and files

Publishing on GCwiki

Before publishing a technology trend paper, it is important to know how the page will look like. While writing the code, select “Show preview” to make sure the generated page is being properly displayed with the right information.

- **Creating a new page** : To create a new page on GCwiki, enter the corresponding name in the URL bar on top of your browser. For example: the link for this user guide is "https://wiki.gccollab.ca/Technology_Trends/User_Guide". The platform will offer you the option to create the corresponding page. Warning! Once a page has been created, it cannot be deleted, so enter a valid name that follows the standards. For English page, name starts with "Technology_Trends/" followed by the technology name using underscores rather than space. For French page, use "Tendances_Technologiques/" followed by the same structure.
- **Adding the code** : Navigate to the "Edit Source" tab on top of the page to publish your code. Copy and paste the corresponding code from Visual Studio Code to GCwiki. Press "Save changes" to publish or "Show preview" to view the resulting code.

Visual Studio Code : Settings and Shortcuts

After installing Visual Studio Code, there are some parameters you might want to change and shortcuts you might want to know.

- **Auto-completion** : VS code has an autocomplete feature by default where if you start writing the tag and then press "tab", it will create the starting and closing tag. Ex: div.orange ->
- **Zoom** : To change the zoom level of the interface, press Ctrl+Shift+P to open the command bar and search for "Preferences: open settings (JSON)". In that file, change and save the "window.zoomLevel" to a suitable value.
- **autoClosingTags** : By default, VS code will recognise and try to close tags. However, this feature may not be suitable. To disable it, go to the same settings.json file as before and set the value to "false".

Basics of HTML and CSS

This section introduces the fundamentals of HTML and CSS. HTML is markup language, meaning that it only describes the structure of a Web page and how the browser should display the content. HTML elements are represented by tags which usually consists of a start tag and an end tag with the content inserted in between. These tags affects the content is specific ways. Here are some basic examples:

Markup	Renders as
Header 1	Header 1
Header 2	Header 2
Paragraph	Paragraph
Division	Division
Bold	**Bold**
Italic	*Italic*
<u>Underline</u>	Underline

HTML tags can have attributes that provide additional information about that element. They are always specified in the **start tag** tag. These attributes can change the behavior of the HTML element such as the style attribute used to specify the styling of an element. The more common attributes are the **id** used to define unique element and the **class** used to define elements sharing the same property. Once an HTML element has a class or an id, its style or behavior can be changed using CSS by addressing the corresponding name. Here are some examples:

Markup	Style	Renders as
Red text		red
Blue Text	#blueText { color: blue; }	Blue Text
Green Text	.green { color: green; }	Green Text

Technology Trend Content Publishing

Most of the publishing work is done in HTML using classes to modify the style and the behavior of specific content. Editing the CSS shouldn't be necessary. After the Code Editor has been installed and the template has been copy-pasted into the new technology brief file, you are ready to start publishing. Each brief is different, so use the instructions provided below accordingly.

Information

The first step is to change the template's information accordingly. Most of these changes affect the right-sided table containing the brief's information. These modifications are commented such as <!-- comment --> to make it easier to locate and make the require changes. Be careful! The information follows a standard syntax and format that must be respected for the sake of consistency. Only the part in green needs to be changed. There is no need to understand what the code does.

line #	Name	Description	Example
2	French Version Link	This GCwiki link redirects to the french version of this page.	[[fr:Tendances_Technologiques/Guide_d'Utilisateur]]
13	Brief Title	This is the name of the brief in the side table in plain text.	User Guide
20	French Version Link	This link redirects to the french version.	[[Tendances_Technologiques/Guide_d'Utilisateur|Guide d'Utilisateur]]
25	Logo File Link	This link displays the logo.	[[File:Technology_Trends_-_User_Guide.png|200px]]
28	Status	Chose one of these 4 states this brief is currently at.	Unassigned / Development / Translation / Published
32	Initial Release	Simple date text	September 1, 2020
36	Latest Version	Simple date text	September 1, 2020
40	Publication File Link	This link shows the published version of this brief.	[[Media:EN_-_Technology_Trends_-_User_Guide.pdf|User Guide.pdf-->]]
78	Wiki Page Name	This changes the name of this GCwiki page.	#firstHeading::after{ content:"User Guide"; }

Headers

Headers indicate a section of the document. In the brief, headers start at H2 and go up for sub-sections. Any headers will show up in the table of content located at the top of the page.

Markup	Renders as
Business Brief	Business Brief

Paragraph

A paragraph tag, denoted by the letter “p”, is opened like all other HTML tags with an opening “ ” tag and a closing “ ”. In the brief, when an entire paragraph (as shown below) needs to be uploaded with no special rendering this can be done using the paragraph tag.

Markup	Renders as
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed quis gravida tellus. Pellentesque egestas nisi id diam accumsan, non vulputate neque viverra. Aenean ut tempus turpis. Nullam ac pellentesque ligula.	Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed quis gravida tellus. Pellentesque egestas nisi id diam accumsan, non vulputate neque viverra. Aenean ut tempus turpis. Nullam ac pellentesque ligula.

In the brief, when an entire paragraph needs to be hidden/collapsible, this can be done by making the paragraph tag part of the class “highlighted mw-collapsible-content”. The CSS will render it as seen below.

Markup	Renders as
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed quis gravida tellus. Pellentesque egestas nisi id diam accumsan, non vulputate neque viverra. Aenean ut tempus turpis. Nullam ac pellentesque ligula.	Hide Detailed View Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed quis gravida tellus. Pellentesque egestas nisi id diam accumsan, non vulputate neque viverra. Aenean ut tempus turpis. Nullam ac pellentesque ligula.

When only part of a paragraph needs to be hidden/collapsible the paragraph will need to be separated into several paragraph tags based on if they need to be hidden/collapsible or not. Parts that do not need to be hidden/collapsible will be part of the class “inline”. This allows the CSS to render the entire paragraph as one piece of text. Areas of text requiring still to be hidden/collapsible are made part of the class “highlighted inline mw-collapsible-content”. An example can be seen below.

Markup	Renders as
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed quis gravida tellus. Pellentesque egestas nisi id diam accumsan, non vulputate neque viverra. Aenean ut tempus turpis. Nullam ac pellentesque ligula.	Hide Detailed View Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed quis gravida tellus. Pellentesque egestas nisi id diam accumsan, non vulputate neque viverra. Aenean ut tempus turpis. Nullam ac pellentesque ligula.

Because the “inline” tag removes the paragraph separation, two subsequent paragraphs require the “inline-spacer” class in between to reset the separation and make the second paragraph on a new line. This is only a problem when two consecutive paragraphs are made inline and do require this “inline-spacer” class in between.

Markup	Renders as
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed quis gravida tellus. Pellentesque egestas nisi id diam accumsan, non vulputate neque viverra. Nunc vel sapien efficitur, convallis nulla bibendum, gravida metus. Integer pharetra aliquet nibh non interdum.	Hide Detailed View Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed quis gravida tellus. Pellentesque egestas nisi id diam accumsan, non vulputate neque viverra. Nunc vel sapien efficitur, convallis nulla bibendum, gravida metus. Integer pharetra aliquet nibh non interdum.

List

Lists can be created in two ways. These are unordered lists which are simply bulleted, and ordered lists which are numbered. Unordered lists like all HTML tags are denoted by an opening “
” tag and a closing “” tag. In the same manner, ordered lists are opened with an opening “
” tag and a closing “” tag. The items in the list will be placed within these tags. List items require being individually wrapped in a “
” opening tag and closing “” tag. An example of this can be seen below.

Markup	Renders as
  - Element 1 - Element 2 	▪ Element 1 ▪ Element 2
  - Element 1 - Element 2 	1. Element 1 2. Element 2

If elements in the list require being hidden/collapsible the entire list will need to be made as a list of lists. When doing this collapsible, items will be placed in a list that is part of the class “highlighted mw-collapsible-content”. An example of this can be seen below.

Markup	Renders as
  - Element 1 <ul class="highlighted mw-collapsible-content"> - Element 2 	Hide Detailed View ▪ Element 1 ▪ Element 2
  - Element 1 <ol class="highlighted mw-collapsible-content"start="2"> - Element 2 	Hide Detailed View 1. Element 1 2. Element 2

Tables

To make a table, use the tag “table” just like before. The table’s rows are then specified one after the other using the tag “tr”. Each cell is coded with either “th” for a header or “td” for details. In the table tab, add the class “wikitable” to add the Wikipedia style to a table or the class “sortable” to make be able to sort the table.

Markup	Renders as
<table class="wikitable sortable"> <tr> <th>Header 1</th> <th>Header 2</th> </tr> <tr> <td>Detail 1</td> <td>Detail 2</td> </tr> <tr> <td>Detail 3</td> <td>Detail 4</td> </tr> </table>	<table><tr><th>Header 1</th><th>Header 2</th></tr><tr><td>Detail 1</td><td>Detail 2</td></tr><tr><td>Detail 3</td><td>Detail 4</td></tr></table>

Links, Images and Files

Links, files, and images are all denoted in a similar fashion with the double square brackets and a vertical line separator as such “[[|]]”. For links the left side of the separator contains the URL of the link (if it is a wiki link the title of the page can be given). On the right side of the separator is the name the user wishes to be displayed. Similar to links, files contain the file name to be displayed on the right side of the separator. The left side contains file name that was uploaded to the database separated by underscores. The left side also contains the prefix “Media:EN_-_”. An image is denoted the same way. Except the right side of the separator contains the size of the image in pixels (eg. 40px). The left side contains the name of the image with the prefix “File:”. Examples of all three can be seen below.

Images and files need to be uploaded to the database by clicking the “Upload file” link on the left side of the page.

Markup	Renders as
[https://www.canada.ca/en.html Canada.ca]	Canada.ca (https://www.canada.ca/en.html)
[[Technology_Trends|Home Page]]	Home Page
[[Media:EN_-_Technology_Trends_-_User_Guide.pdf|User Guide pdf]]	User Guide pdf
[[File:Traffic_cone.png|40px]]	

References

References like other HTML tags are created with an opening <ref> tag and a closing </ref> tag. Within the reference tags the APA citation can be placed. After the citation a link can also be placed with the same format as previously discussed or simply with one square bracket pair like “[ ]”. Doing so, will cause the citation in the text to appear as a number, as seen in the example below.

Markup	Notation
Lorem ipsum dolor sit amet, consectetur adipiscing elit.<ref>Wikipedia. (2019, September 1). [https://en.wikipedia.org/wiki/Main_Page Wikipedia]. Retrieved from Wikipedia</ref>	Lorem ipsum dolor sit amet, consectetur adipiscing elit.[1] References 1. Wikipedia. (2019, September 1).Wikipedia (https://en.wikipedia.org/wiki/Main_Page) Retrieved from Wikipedia

Main Pages

Once a brief is completed, changes must be made to the main “Technology Trend” page. The first change is to the recent addition banner. A link must be made to your new trend. The second change needed to be made is in the bottom table listing all the trend. Since the new trend is now available, the relevant information needs to be updated and the name be made into a link to the trend page.

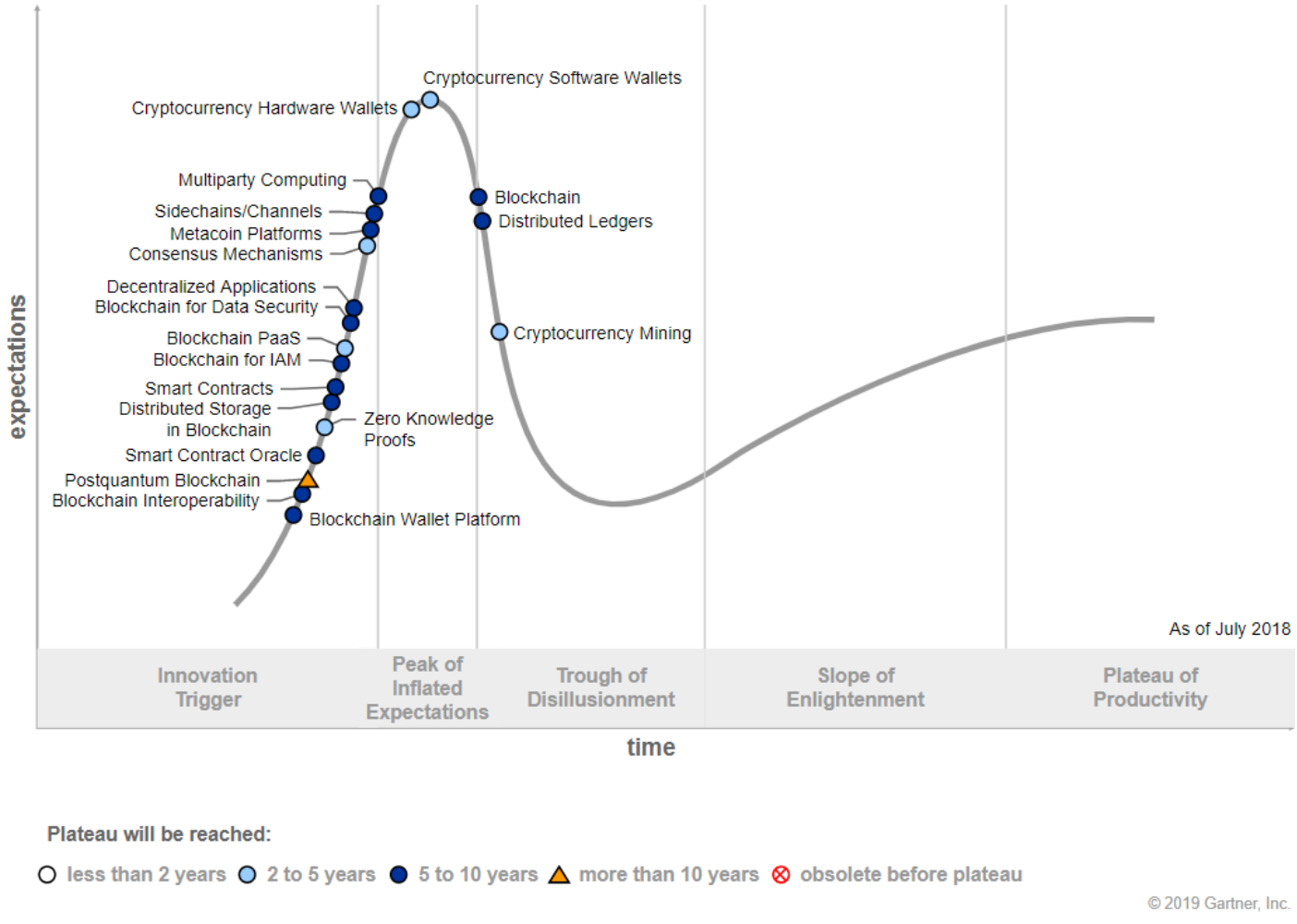
Markup	Renders as
<table> <tr> <td>[[File:Traffic_cone.png|40px]]</td> <td class="disclaimerText">Recent additions include [[Technology_Trends/Blockchain|Blockchain]], [[Technology_Trends/Drones|Drones]].</td> </tr> </table>	 Recent additions includeBlockchain, Drones.
<table class="wikitable sortable technology-table" style="border: 0px solid;"> <tr> <th colspan="3">Name</th> <th>Status</th> <th style="white-space: nowrap;">Release Date</th> <th>Official Publications</th> </tr> <tr> <td style="border-right: 0px solid; text-align:right;">[[Technology_Trends/Blockchain|Blockchain]]</td> <td style="border-left: 0px solid; border-right: 0px solid;">-</td> <td style="border-left: 0px solid; text-align:left">[[Tendances_Technologiques/Chaîne_de_Blocs|Chaîne de Blocs]]</td> <td>Published</td> <td>2019-05-23</td> <td>[[Media:EN_-_Technology_Trends_-_Blockchain.pdf|EN]] - [[Media:FR_-_Tendances_Technologiques_-_Blockchain.pdf|FR]]</td> </tr> <tr> <td style="border-right: 0px solid; text-align:right;">3D XPoint (Optane)</td> <td style="border-left: 0px solid; border-right: 0px solid;">-</td> <td style="border-left: 0px solid; text-align:left">3D XPoint (Optane)</td> <td>Development</td> <td>FY 19-20 Q2</td> <td></td> </tr> </table>	<table><tr><th colspan="3">Name</th><th>Status</th><th>Release Date</th><th>Official Publications</th></tr><tr><td>Blockchain</td><td>-</td><td>Chaîne de Blocs</td><td>Published</td><td>2019-05-23</td><td>EN - FR</td></tr><tr><td>3D XPoint (Optane)</td><td>-</td><td>3D XPoint (Optane)</td><td>Development</td><td>FY 19-20 Q2</td><td></td></tr></table>

Hype cycle

To display a Hype cycle graphic with the translation table, Use this following code. This container will adjust the size of the graphic and place the table either side-by-side or below. This code is based on the bootstrap framework. Here is an example using Blockchain technology.

Markup	Notation
    [[File:EN_Technology_Trends_-_Blockchain_Hype_Cycle_2018.png|center]] <table class="wikitable hypecycle_table"> <tr> <th>English</th> <th>Français</th> </tr> <tr> <td>Figure 1. Hype Cycle for Blockchain Technologies, 2018</td> <td>Figure 1. Rapport Hype Cycle sur les technologies de la chaîne de blocs, 2018</td> </tr> <tr> <td>Expectations</td> <td>Attentes</td> </tr> <tr> <td>Time</td> <td>Temps</td> </tr> </table> 	• **div :** *(tag)* Division • **container :** *(class)* Creates a container for a group of elements. • **row :** *(class)* Creates an inline space inside the container • **col-sm-8 :** *(class)* Creates a column of width 8/12. • **col-sm-4 :** *(class)* Creates a column of width 4/12.

Renders as



English	Français
Figure 1. Hype Cycle for Blockchain Technologies, 2018	Figure 1. Rapport Hype Cycle sur les technologies de la chaîne de blocs, 2018
Expectations	Attentes
Time	Temps

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