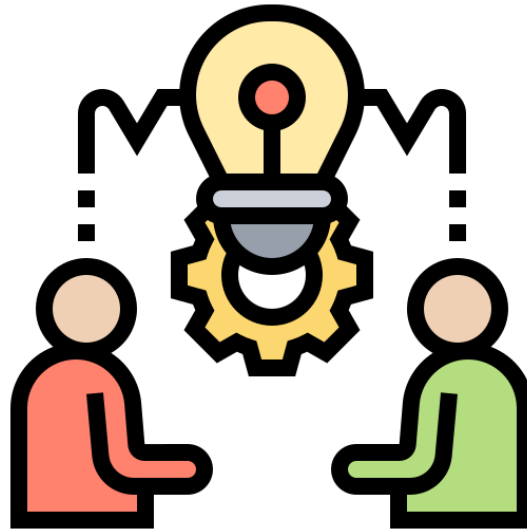


Vision 2030



Internship Report

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Vision 2030

Objectives of the Internship

- Manually analyze the Vision 2030 map for errors
- Collect statistics on types and frequencies of different error types

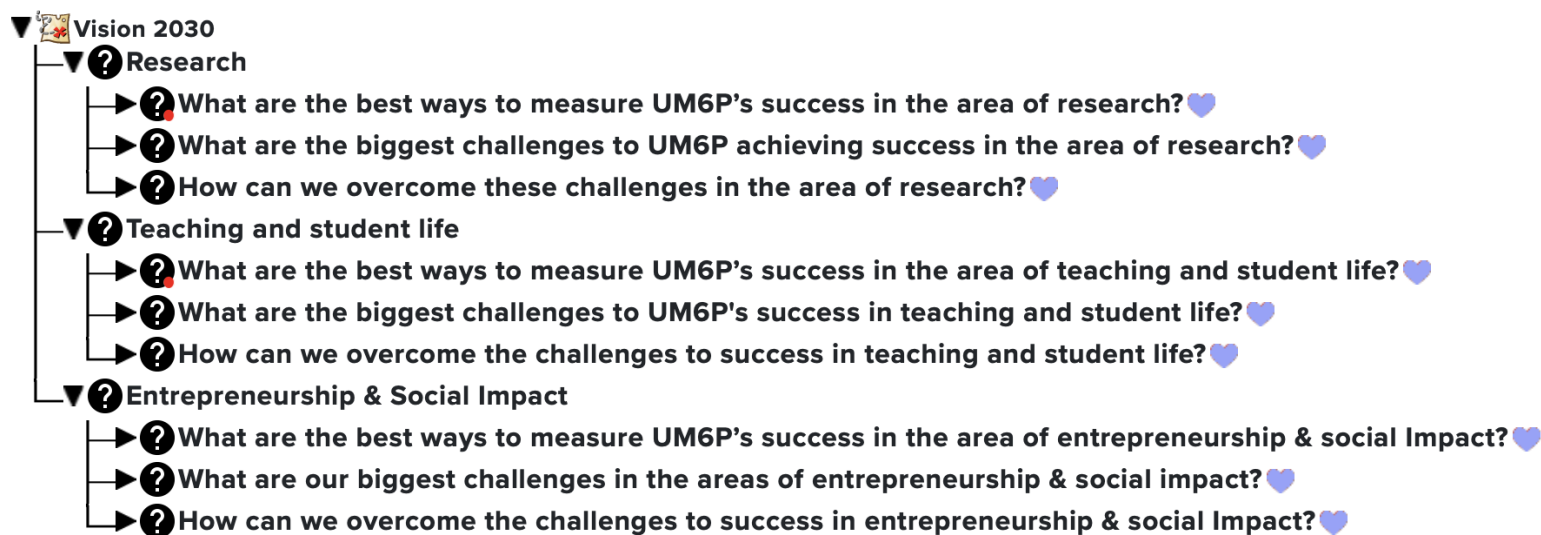
Content

As seen on Figure 1, the Vision 2030 Map is composed of three main themes: Research, Teaching and Student Life, and lastly Entrepreneurship and Social Impact. Under each theme, there are three questions asking about the measure of success, challenges, and proposed solutions in a given area (theme).

During our analysis, we first examined the map to gain insights into the errors present. This helped us identify the different types of errors in the map of Vision 2030. Then, we created hashtags for each type of error, which you can see in Table 1 and 2. This made it easier to deal with the errors in an organized way. We also synthesized the errors in Table 3 and assessed their frequencies of occurrence. As we studied the map more closely, we suggested important improvements to make it better. For instance, we recommended relocating some arguments as ideas. Additionally, we suggested merging redundant arguments to eliminate unnecessary repetition. We also proposed some title and description changes. We also found irrelevant, empty and vacuous content that we named as insubstantive.

By making these adjustments, we aimed to improve the overall quality and clarity of the map Vision 2030. With these changes in place, we believe that the map will better serve its purpose and guide us towards a more successful and prosperous future.

Figure 1: Vision 2030 Map



Error types

There are 9 major error types we are taking into account in our work. Some of the major error types may have subtypes of errors; those are differentiated using tags (hashtags). Table 1 below summarizes the error types accounted for in this internship.

Table 1: Main errors types and their meaning

Error type	Meaning
unclear	The post title or description are unclear or incomplete
inappropriate	This post contains spam or abusive language
misplaced	This post should be somewhere else in the map
mistyped	This post has the wrong type
bundled	This post contains multiple points (questions, answers and/or arguments)
redundant	This point was already made by another post in map
insubstantive	this post contains no relevant content
bushy	There are too many (> 7) arguments and they should be clustered
other	This includes any other type of errors (other language, misspelling, grammatical errors, word choice, ...)

Some error types have multiple subtypes as seen in Table 2 below.

Table 2: Errors types with subtypes expressed as tags

Error type	Tags	Meaning
Unclear	#notitle	The argument has no title (e.g. ???)
	#nodescription	The argument has title but no description
	#uncleardescription	The description does not describe properly the title
	#incompletedescription	The description is incomplete
	#incompletetitle	The title is incomplete
	#longtitle	Title too long

	#uncleartitle	Title does not have enough details
	#undescriptivetitle	The title does not fit the description of the argument
	#shorttitle	Title too short
	#unrelateddescription	The description does not match the title
	#incompletetitle	Title does not describe the argument properly
	#reversewithdescription	The title should be as a description
	#changetitle	The title does not match the description and should be changed
misplaced	#newidea	The argument should be add as a new idea
	#mainargument	The argument should be a main argument not subargument
	#underfolder	The argument should be replaced in other folder
	#solution	The argument should be placed in solutions
	#challenges	The argument should be placed in challenges
	#newfolder	The argument should be add as a new folder
mistyped	#con	The argument should be as a con
	#pro	The argument should be as a pro
bundled	#Narguments	N: ref to the number of argument(e.g. #2arguments)
	#question	The argument contant a question
insubstantive	#Vacuous	Examples: no, yes, i agree, ...
	#irrelevant	Statements that are not arguments.
	#empty	E.g. ???, no content
Other	#french	The language used is french
	#deleteword	
	#Spelling	
	#reformulate	
	#conditional	(e.g. if not relevant paper)

Results

After carefully analyzing our dataset, we can see from Table 3 that the most common error type is *unclear* followed by *other*, *misplaced*, *insubstantive*, then *redundant*. Few were *mistyped* and *bundled* and even fewer were *bushy*. There were no *inappropriate* responses.

Table 3: Frequency of error occurrence based on type

Errors type	Frequency
unclear	358
inappropriate	0
misplaced	93
mistyped	21
bundled	25
redundant	40
insubstantive	51
bushy	2
other	172

Regarding the *unclear* error, and given a 746 total responses, we can see that besides being the most common error, this error affects nearly half the dataset. This error type ranges from responses without a description, without a title, with a long or short title, or even incompatible title and description.

These observations lead us to extract some limitations and have suggestions on how to conduct future deliberations and optimize their outputs.

Limitations

Despite all the precautionary measures and the strict abidance by the data collection manuals, our task of manually identifying errors on a question map was not without its limitations. The data collection, though well-structured, may still be subject to variations in interpretation and data quality, potentially leading to inconsistencies in error identification.

On a first glance at the errors table, one could easily see that there could be overlapping between the diverse errors types. Thus, the initial step of taking a look at the entire map was primordial because it would allow us to unify error tags.

There are instances where, for example, an idea or multiple ones are on the same level of hierarchy on the map as a folder. In other cases, some folders have arguments, meaning that in this case the arguments are on the same level as ideas. This only makes the map look messy and harder to read.

As previously mentioned, there are several *unclear* statements, which calls into question the usability of the dataset. Another common error is *other* which includes the use of the French language as a means of

ideation, the spelling, or bad word choice. Multiple statements are *misplaced* and need to be placed elsewhere on the map, sometimes classifying as *solutions* rather than *challenges* for instance.

We also noticed that some ideas did not have any arguments, for which we later added a *#no_argument* tag. This may simply be due to the difficulty of finding arguments for the said idea. However, this inequality of arguments is a huge limitation because the Vision 2030 will not be complete and some ideas might not be seen as a priority even though they might actually be.

Future Work

In terms of future improvements for this project, one notable aspect is the incorporation of tasks that were initially planned but could not be undertaken due to time constraints, namely the development of a knowledge map which we believe will enhance the project's comprehensiveness and impact.

Another suggestion is about simplifying the map hierarchy and having a stricter order to be followed and respected. The map would be more useful and more visually expressive if the hierarchy of the map components follows the strict order of starting with the theme followed by the question, followed by the folder, followed by the idea, and lastly followed by the arguments.

Controlling for redundancy may be another area to improve on. A round of cleaning, filtering, and idea grouping may be done on redundant ideas before giving respondents access to add arguments. Another round of cleaning should also be done on the arguments this time, after the respondents will have given their arguments. This will lead to having unique and clean entries ready to analyze each step of the way.

Another valuable suggestion is implementing randomization at the level of the three themes and the three questions together, which would lead to a more evenly distributed allocation of efforts and responses. In other words, this approach will even out the effect of respondent fatigue, therefore creating a more informative and useful dataset.

Moreover, we believe that the opinions of the respondents were limited in terms of diversity. Thus, we suggest broadening the scope of participants by involving teachers, students, and staff members in the survey to introduce new perspectives and enrich the collected feedback and insights.

To enhance the utility of collected data, we also suggest a stronger focus on the descriptive quality and informativeness of responses. In this regard, automating the title generation based on mandatory descriptions given by respondents is expected to improve the quality of descriptions. This could be achieved manually or using AI.

To prevent *insubstantive* arguments or ideas, an automatic detector and message could be used to remind the respondents of the right format to input. This idea might be applied to other types of error such as redundancy, language used, spelling, and bundling.