Tome.gg Whitepaper

1st Darren Karl Sapalo
Tome.gg (Founder) Makati City, Philippines
darren.sapalo@gmail.com

Abstract—This whitepaper carves out the Tome.gg 's contribution to inclusive and equitable quality education and lifelong learning for all[1].

In section I, we quantify the gravity of the challenge that the community faces at a global scale. In section II, we introduce Tome.gg and its general concept. In section III, we describe the different stakeholders within and adjacent to the community. In section IV, we define the problems and challenges we are aiming to address. In section V, we propose theories and recommendations to address said problems to guide the community's effort in contribution.

The remaining sections VI and VII define our community principles and directions that lay the groundwork for the active projects within the community. After reading this whitepaper, you will have a clear idea of who we are, what we are trying to solve, and the spaces in our community that you can go: to lurk, participate, play, learn, teach, or create.

Index Terms—education, technology, gaming, learning, growth

I. THE GLOBAL SCENE

With the COVID19 pandemic, rising inflation rates, and resource shortages due to threats of war, poverty and education are gravely affected. The UN highlighted in their 2022 SDG Report [1] that the progress on global poverty rate has been reversed by 3 years, but could be as worse as poverty reduction efforts being reversed to as much as 9 years for low-income countries [2]. It is estimated that "147 million children missed more than half of their in-class instruction over the past two years [and this] generation of children could lose a combined total of $17 trillion in lifetime earnings in present value" [3].

As a collective society, the human race faces the great challenges of poverty, inequality, and inaccessible resources. Tome.gg believes that education is the critical component towards empowerment, upliftment of life quality, and equitable opportunities in a global scene. This sets the stage that necessitates global collaboration on this global crisis.

Who are affected? Who can contribute? What part should I play? How might we engage various stakeholders and contributors like inventors, educators, and entrepreneurs? The key to enabling this global collaboration would be effective communications and a reliable protocol to ensure clarity and understanding. The research and design of this protocol is led by Tome.gg . We introduce Tome.gg in the following section.

II. INTRODUCTION

Every single person in the world is playing a game. Some play their game casually, while some play their game com-

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[1]Feel free to skip, ignore, skim sections. We recommend you read only the sections that is relevant to you.
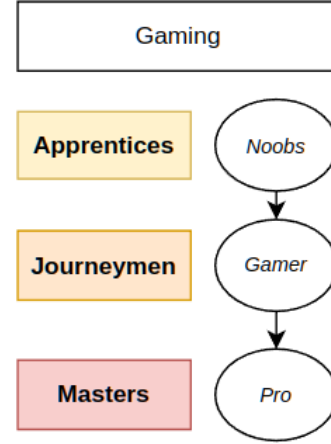

Fig. 1. In the gaming domain, the following terms are commonly used to refer to people in relation to their skill level.

petitively. A person's game might be physical sports where the objective is to win based on the rules of the game. A person's game might be social interactions and their objective is to become popular with a huge following. A person's game might be business, and their objective is to make their numbers grow big. Everyone is playing a game.

Tome.gg is an educational and growth-oriented community that leverages lessons learned in games and applying them in one's personal and professional life. In machine learning under computer science, the concept of applying what was learned from one domain or problem to another is called transfer learning [5]. At Tome.gg , we use examples, theories, and concepts learned from games to explain and educate using analogies and comparisons. For example, we can see a model of apprenticeship [4] applied in the gaming domain that represents the various stages of learning: people become apprentices, journeymen, and masters.

Tome.gg primarily focuses on mid- to senior-level software engineers. However, this focus on the software engineering domain and the focus on engineers at a journeyman stage does not limit the opportunities offered to apprentices and masters. This focus does not restrict them from participating or contributing to this community. Everyone has a unique role to play in how to efficiently contribute in the global challenges in education, which we will discuss in section V.

The following section describes the stakeholders within and outside of the Tome.gg community.

III. Community stakeholders

The previous section described the apprenticeship model which uses the skill proficiency dimension to classify individuals. The following section uses the behavior dimension to classify stakeholders that we engage with in Tome.gg whether individuals or organizations.

A. Students, Learners, Apprentices

These are people who have an area of interest that they wish to learn about. This could be games, software engineering, medicine, law, or the like. Often times these are younger people, or fresh graduates, or people who are new to the workforce. In these cases, a young student would have the abundance of time, energy, interest, and curiosity.

B. Teachers, Educators, Mentors

These are people who have accumulated an abundance of knowledge in their field. This could be people who have spent roughly 5-10 years in their domain or industry. In these cases, they have an abundance of experience and context about their field.

C. Masters, Experts, PhDs

These are people who have not only acquired knowledge in their field for decades, but are actively involved in advancing the production and creation of new knowledge through research. This could be academic researchers, research scientists, or even e-sports gaming professionals that are crafting or innovating the next meta of some video game. In these cases, they have an abundance of experience, context, and data about their field that enables them to theory craft, to perform pattern analysis, and to research new knowledge.

D. Consumers, Afficionados, Connoisseurs, Savants

These are people who may not be performers or creators in their field (e.g. cooking, creating YouTube videos, or creating art) but are well-versed in the taste and quality of creations. They spend a lot of their time consuming different kinds of things to ensure their evaluations and analysis remains sharp. In these cases, they have an abundance of observational or secondary experience in their field, and focus on enabling the accessibility of learning about theories and patterns that either they or masters have developed.

E. Creators, Curators, Performers

These are individuals who are at the center of their field, actively participating, and are directly involved in creating a new performance, developing a new creation, or remixing past things into something new. Some masters are also creators and performers, but not all creators are masters. In a similar regard, these people can be considered as major manufacturers or creators, whether in the digital or physical sense. In these cases, these individuals have an abundance of primary experience in their field and an immense abundance in their network, by having an incredible connection with their audiences or markets, or the partnerships they make.

F. Corporations, Organizations, Governments

These are organizations which operate at greater velocity as compared to individuals. Each organization has their own directions depending on what their objectives are. They have the great opportunity of funneling their resources into the causes that are important to them (e.g. profit, social impact, advocacies, inclusion) but with this immense power and influence comes also greater opportunity cost and risk. As such, they unfortunately cannot make as fast decisions as an individual might be able to, as they have people and systems that depend on them already that they risk endangering or losing. In these cases, organizations are abundant in their resources, financial credibility, brand identity (if any), networks, and assets.

IV. Problems and Challenges

A. The rising cost of education

B. Moving fast but getting lost

C. Increased costs due to context switching

D. Inefficiencies, theft, and attribution

V. Contribution

A. Abbreviations and Acronyms

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, ac, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable.

VI. Principles and Mindsets

VII. Community Directions

A. Units

- Use either SI (MKS) or CGS as primary units. (SI units are encouraged.) English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as "3.5-inch disk drive".
- Avoid combining SI and CGS units, such as current in amperes and magnetic field in oersteds. This often leads to confusion because equations do not balance dimensionally. If you must use mixed units, clearly state the units for each quantity that you use in an equation.
- Do not mix complete spellings and abbreviations of units: "Wb/m^2" or "webers per square meter", not "webers/m^2". Spell out units when they appear in text: ". . . a few henries", not ". . . a few H".
- Use a zero before decimal points: "0.25", not ".25". Use "cm^3", not "cc".)

B. Equations

Number equations consecutively. To make your equations more compact, you may use the solidus (/), the exp function, or appropriate exponents. Italicize Roman symbols for quantities and variables, but not Greek symbols. Use a long dash rather than a hyphen for a minus sign. Punctuate

equations with commas or periods when they are part of a sentence, as in:

$$a + b = \gamma \tag{1}$$

Be sure that the symbols in your equation have been defined before or immediately following the equation. Use "(1)", not "Eq. (1)" or "equation (1)", except at the beginning of a sentence: "Equation (1) is . . ."

C. LaTeX-Specific Advice

Please use "soft" (e.g., `\eqref{Eq}`) cross references instead of "hard" references (e.g., `(1)`). That will make it possible to combine sections, add equations, or change the order of figures or citations without having to go through the file line by line.

Please don't use the `{eqnarray}` equation environment. Use `{align}` or `{IEEEeqnarray}` instead. The `{eqnarray}` environment leaves unsightly spaces around relation symbols.

Please note that the `{subequations}` environment in LaTeX will increment the main equation counter even when there are no equation numbers displayed. If you forget that, you might write an article in which the equation numbers skip from (17) to (20), causing the copy editors to wonder if you've discovered a new method of counting.

BIBTeX does not work by magic. It doesn't get the bibliographic data from thin air but from .bib files. If you use BIBTeX to produce a bibliography you must send the .bib files.

LaTeX can't read your mind. If you assign the same label to a subsubsection and a table, you might find that Table I has been cross referenced as Table IV-B3.

LaTeX does not have precognitive abilities. If you put a `\label` command before the command that updates the counter it's supposed to be using, the label will pick up the last counter to be cross referenced instead. In particular, a `\label` command should not go before the caption of a figure or a table.

Do not use `\nonumber` inside the `{array}` environment. It will not stop equation numbers inside `{array}` (there won't be any anyway) and it might stop a wanted equation number in the surrounding equation.

D. Some Common Mistakes

- The word "data" is plural, not singular.
- The subscript for the permeability of vacuum μ_0, and other common scientific constants, is zero with subscript formatting, not a lowercase letter "o".
- In American English, commas, semicolons, periods, question and exclamation marks are located within quotation marks only when a complete thought or name is cited, such as a title or full quotation. When quotation marks are used, instead of a bold or italic typeface, to highlight a word or phrase, punctuation should appear outside of the quotation marks. A parenthetical phrase or statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.)

- A graph within a graph is an "inset", not an "insert". The word alternatively is preferred to the word "alternately" (unless you really mean something that alternates).
- Do not use the word "essentially" to mean "approximately" or "effectively".
- In your paper title, if the words "that uses" can accurately replace the word "using", capitalize the "u"; if not, keep using lower-cased.
- Be aware of the different meanings of the homophones "affect" and "effect", "complement" and "compliment", "discreet" and "discrete", "principal" and "principle".
- Do not confuse "imply" and "infer".
- The prefix "non" is not a word; it should be joined to the word it modifies, usually without a hyphen.
- There is no period after the "et" in the Latin abbreviation "et al.".
- The abbreviation "i.e." means "that is", and the abbreviation "e.g." means "for example".

An excellent style manual for science writers is [7].

E. Authors and Affiliations

The class file is designed for, but not limited to, six authors. A minimum of one author is required for all conference articles. Author names should be listed starting from left to right and then moving down to the next line. This is the author sequence that will be used in future citations and by indexing services. Names should not be listed in columns nor group by affiliation. Please keep your affiliations as succinct as possible (for example, do not differentiate among departments of the same organization).

F. Identify the Headings

Headings, or heads, are organizational devices that guide the reader through your paper. There are two types: component heads and text heads.

Component heads identify the different components of your paper and are not topically subordinate to each other. Examples include Acknowledgments and References and, for these, the correct style to use is "Heading 5". Use "figure caption" for your Figure captions, and "table head" for your table title. Run-in heads, such as "Abstract", will require you to apply a style (in this case, italic) in addition to the style provided by the drop down menu to differentiate the head from the text.

Text heads organize the topics on a relational, hierarchical basis. For example, the paper title is the primary text head because all subsequent material relates and elaborates on this one topic. If there are two or more sub-topics, the next level head (uppercase Roman numerals) should be used and, conversely, if there are not at least two sub-topics, then no subheads should be introduced.

G. Figures and Tables

a) Positioning Figures and Tables: Place figures and tables at the top and bottom of columns. Avoid placing them in the middle of columns. Large figures and tables may span

across both columns. Figure captions should be below the figures; table heads should appear above the tables. Insert figures and tables after they are cited in the text. Use the abbreviation "Fig. 2", even at the beginning of a sentence.

TABLE I
TABLE TYPE STYLES

Table Head	Table Column Head		
	Table column subhead	*Subhead*	*Subhead*
copy	More table copy[a]		

[a]Sample of a Table footnote.

Fig. 2. Example of a figure caption.

Figure Labels: Use 8 point Times New Roman for Figure labels. Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader. As an example, write the quantity "Magnetization", or "Magnetization, M", not just "M". If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write "Magnetization (A/m)" or "Magnetization $\{A[m(1)]\}$", not just "A/m". Do not label axes with a ratio of quantities and units. For example, write "Temperature (K)", not "Temperature/K".

ACKNOWLEDGMENT

The preferred spelling of the word "acknowledgment" in America is without an "e" after the "g". Avoid the stilted expression "one of us (R. B. G.) thanks ...". Instead, try "R. B. G. thanks...". Put sponsor acknowledgments in the unnumbered footnote on the first page.

REFERENCES

Please number citations consecutively within brackets [1]. The sentence punctuation follows the bracket [2]. Refer simply to the reference number, as in [3]—do not use "Ref. [3]" or "reference [3]" except at the beginning of a sentence: "Reference [3] was the first ..."

Number footnotes separately in superscripts. Place the actual footnote at the bottom of the column in which it was cited. Do not put footnotes in the abstract or reference list. Use letters for table footnotes.

Unless there are six authors or more give all authors' names; do not use "et al.". Papers that have not been published, even if they have been submitted for publication, should be cited as "unpublished" [4]. Papers that have been accepted for publication should be cited as "in press" [5]. Capitalize only the first word in a paper title, except for proper nouns and element symbols.

For papers published in translation journals, please give the English citation first, followed by the original foreign-language citation [6].

REFERENCES

[1] United Nations, "The Sustainable Development Goals Report 2022" from https://www.un.org/sustainabledevelopment/progress-report/.
[2] United Nations, "Poverty - United Nations Sustainable Development". Accessed February 5, 2023 from https://www.un.org/sustainabledevelopment/poverty/.
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[4] I need a reference for the apprenticeship model.
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[6] Y. Yorozu, M. Hirano, K. Oka, and Y. Tagawa, "Electron spectroscopy studies on magneto-optical media and plastic substrate interface," IEEE Transl. J. Magn. Japan, vol. 2, pp. 740–741, August 1987 [Digests 9th Annual Conf. Magnetics Japan, p. 301, 1982].
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