CSCI 3700 Database Project: Gaming 1980-2023

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*Abstract*—The purpose of our project is to create a searchable/relatable database of video games from 1980 to 2023.

Keywords—searchable, console, video game, developer, database.

# Introduction

The purpose of our project is to create a database, which is a searchable repository for video games since 1980. It will contain individual tables consisting of games and details (i.e. genre, year), platforms/consoles, and developers with relationships.

Additionally, SQL script will be provided to include queries to return connected datasets across each table. We also plan create a website to create a user friendly access point to use the data. This website will provide a great interface where users can search for games, explore developer information, and view platform compatibility without needing direct knowledge of SQL. The combination of a structured database and an accessible web interface will make this project a very resource for gamers, researchers, and industry professionals alike.

# Literature Review

## Developing a Video Game Metadata Schema for the Seattle Interactive Media Museum

This journal, by Rachel I. Clarke, Jin Ha Lee, Joseph T. Tennis, and Michael Carpenter (2013), explain the need for organizing and accessing video game information, because due to the medium's unique and interactive nature, it is a real challenge. To address these challenges, the authors developed six personas—Player, Parent, Collector, Academic, Game Developer, and Curator/Librarian—to represent different user needs and realized that the most important aspects they need were these elements: title, developer, genre, release year, platform, and tag-based search support.

Using this information, we plan on creating columns and tables with the focus being on these elements. Specifically, we will create relational tables and columns that correspond to these key fields, ensuring that the database reflects real-world user priorities and search behaviors. For example, tag-based search support may require the implementation of a many-to-many relationship between games and tags via a linking table.

## A Survey and Comparison of Relational and Non-Relational Database

Identify applicable funding agency here. If none, delete this text box.

This journal, covers the creation of databases in SQL. Specifically for this project, we will be focusing on relational databases. Nishtha Jatana, Sahil Puri, Mehak Ahuja, Ishita Kathuria, and Dishant Gosain, defines a relational database as “a collection of data items organized in formally-described tables from which data can be accessed or reassembled in many different ways.”(2012)

The paper also outlines the advantages of using relational databases, such as ease of data retrieval, consistency, predictability, and support for structured query operations. These attributes make the relational model particularly well-suited for applications like ours, where multiple data types (text, tags, dates, relationships between titles and platforms, etc.) must be organized and queried efficiently. By applying these principles in MySQL, we aim to create a scalable and maintainable database that supports complex queries and dynamic front-end search functionality based on user input.

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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, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable.

## Units

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* Use a zero before decimal points: “0.25”, not “.25”. Use “cm3”, not “cc”. (*bullet list*)

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*a**b* 

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## Some Common Mistakes

* The word “data” is plural, not singular.
* The subscript for the permeability of vacuum **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).
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* Be aware of the different meanings of the homophones “affect” and “effect”, “complement” and “compliment”, “discreet” and “discrete”, “principal” and “principle”.
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* There is no period after the “et” in the Latin abbreviation “et al.”.
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An excellent style manual for science writers is [7].

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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.

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1. Table Type Styles

| Table Head | Table Column Head | | |
| --- | --- | --- | --- |
| Table column subhead | Subhead | Subhead |
| copy | More table copya |  |  |

1. Sample of a Table footnote. (*Table footnote*)

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To have non-visible rules on your frame, use the MSWord “Format” pull-down menu, select Text Box > Colors and Lines to choose No Fill and No Line.

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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 *(Heading 5)*

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

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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.

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1. N. Jatana, S. Puri, M. Ahuja, I. Kathuria, and D. Gosain, “A Survey and Comparison of Relational and Non-Relational Database,” *International Journal of Engineering Research & Technology (IJERT)*, vol. 1, no. 6, Aug. 2012.
2. Clarke, Rachel I.; Lee, Jin Ha; Tennis, Joseph T.; and Carpenter, Michael, "Developing a Video Game Metadata Schema for the Seattle Interactive Media Museum" (2013). School of Information Studies - Faculty Scholarship. 169. https://surface.syr.edu/istpub/169
3. R. Nicole, “Title of paper with only first word capitalized,” J. Name Stand. Abbrev., in press.
4. 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].
5. M. Young, The Technical Writer’s Handbook. Mill Valley, CA: University Science, 1989.
6. K. Eves and J. Valasek, “Adaptive control for singularly perturbed systems examples,” Code Ocean, Aug. 2023. [Online]. Available: <https://codeocean.com/capsule/4989235/tree>
7. D. P. Kingma and M. Welling, “Auto-encoding variational Bayes,” 2013, arXiv:1312.6114. [Online]. Available: <https://arxiv.org/abs/1312.6114>
8. S. Liu, “Wi-Fi Energy Detection Testbed (12MTC),” 2023, gitHub repository. [Online]. Available: https://github.com/liustone99/Wi-Fi-Energy-Detection-Testbed-12MTC
9. “Treatment episode data set: discharges (TEDS-D): concatenated, 2006 to 2009.” U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies, August, 2013, DOI:10.3886/ICPSR30122.v2

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