

Large Language Models, Experiential Learning, and AI Simulations in the Classroom: The HistoryLens Framework

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Introduction

Hayden White once argued that historical research begins with the ability to envision “at least two versions of the same set of events.”¹ Unfortunately, history textbooks and survey courses may create the misleading impression that the facts of history are settled, reducing history education to the mere memorization of dates and interpretations.

To counter this, many history educators have developed activities based on experiential learning (EL), an approach which emphasizes concrete experience, reflective observation, abstract conceptualization, and self-directed inquiry.² Role-playing exercises, educational games, and historical simulations have long been important parts of this experiential toolkit. Notable among these is the Reacting to the Past system, which immerses students in scenarios where they must embody the perspectives of historical actors.³ Related research has explored the pedagogical value of historical video games, which may encourage engagement with historiographic debates and reflection on the role of contingency in history.⁴ Digital games may also facilitate learning by cultivating “historical empathy” and perspective-taking.⁵

Large language models (LLMs) like ChatGPT are an important new tool for experiential learning.⁶ LLMs have well-documented limitations, including biases from flawed training data, ethical and privacy concerns, and potential misuse for cheating.⁷ Yet LLMs also have enormous potential for developing novel activities and

1 Hayden White, *The Content of the Form: Narrative Discourse and Historical Representation* (Baltimore, MD: Johns Hopkins University Press, 1990), 20.

2 David A. Kolb, *Experiential Learning: Experience as the source of learning and development* (Hoboken, NJ: Prentice-Hall, 1984); George White Jr, “Crafting History: on Oral History Projects, Experiential Learning, and a Meditation on Teaching and Learning,” *Teaching History: A Journal of Methods* 38, no. 1 (2013): 23-38; Morais, Dominic G. “Doing History in the Undergraduate Classroom,” *The History Teacher* 52, no. 1 (2018): 49-76; and Edward J. Balleisen and Rita Chin, “The Case for Bringing Experiential Learning into the Humanities,” *Daedalus* 151, no. 3 (2022): 138-152.

3 Carnes, Mark C. *Minds on Fire: How Role-Immersion Games Transform College* (Cambridge, MA: Harvard University Press, 2014); Russell Olwell and Azibo Stevens, “I had to double check my thoughts’: How the Reacting to the Past Methodology Impacts First-Year College Student Engagement, Retention, and Historical Thinking,” *The History Teacher* 48, no. 3 (2015): 561-572.

4 Dawn Spring, “Gaming history: computer and video games as historical scholarship,” *Rethinking History* 19, no. 2 (2015): 207-221; Jeremiah McCall, “Teaching History with Digital Historical Games: An Introduction to the Field and Best Practices,” *Simulation & Gaming*, 47(4) (2016), 517-542; Thirstan Falconer and Zack MacDonald, “Policy writing simulations: Pedagogy, learning objectives, and experiential learning in the Canadian history classroom,” *Teaching History: A Journal of Methods* 45, no. 2 (2020): 18-41; Tore Olsson, “Teaching History with Video Games,” *The American Historical Review*, 128, no. 4 (December 2023): 1755-1775. See also the special section of *Teaching History* (Fall 2023) on “History Fun and Games.”

5 Lisa Gilbert, “Assassin’s Creed reminds us that history is human experience’: Students’ senses of empathy while playing a narrative video game,” *Theory & Research in Social Education* 47, no. 1 (2019): 108-137; Niamboue Bado, “Game-based learning pedagogy: A review of the literature,” *Interactive Learning Environments* 30, no. 5 (2022): 936-948.

6 Rui Sun, and Xuefei Deng, “Using ChatGPT to Enhance Experiential Learning of College Students,” (2024), <https://hdl.handle.net/10125/106384>.

7 Lixiang Yan, Lele Sha, Linxuan Zhao, Yuheng Li, Roberto Martinez-Maldonado, Guanliang Chen, Xinyu Li, Yueqiao Jin, and Dragan Gašević, “Practical and ethical challenges of large language models in education: A systematic scoping review,” *British Journal of*

assignments. I argue here that the ability of LLMs to enable *interactive historical simulations* is a significant (and, to date, largely untapped) aspect of this potential. Whereas older models of educational role-playing rely upon pre-defined materials, LLM-based simulations allow students to dynamically experiment with the affordances of a simulated world and the historical narratives it is based on — what game designer and scholar Ian Bogost calls its “procedural rhetoric.”⁸

In the HistoryLens framework described below, students can directly observe, analyze, and even modify the prompt that is fed into an LLM to create an interactive text-based simulation of a historical setting. Because these prompts feature detailed information derived from primary and secondary sources, students are empowered to interpret, critique, and — crucially — to *experience* historical sources in a genuine new way.

Drawing on my experiences trialing the framework in two history surveys at the University of California, Santa Cruz in 2023 (which together comprised roughly 240 enrolled students), this paper explores the potential and limitations of AI-enabled historical simulations. It details three case studies in the development process of HistoryLens, detailing how the simulations are supplemented by skills-building sessions, group discussion, and scaffolded assignments. I conclude with some thoughts about paths for future work.

Methods and Background

How does it work?

The core of the HistoryLens project is a detailed prompt for use with LLMs like OpenAI’s GPT models (GPT-3.5, GPT-4, GPT-4o), Google’s Gemini, and Anthropic’s Claude. By combining a standardized “rule set” with a customizable setting and excerpts from primary sources, an LLM can generate detailed interactive textual recreations of historical settings and events.⁹ The result is, in effect, an educational version of a text-based adventure game in which students control a historical character and navigate this dynamically generated world through typed commands. They interact with “non-playable characters” (if desired, using period-appropriate languages) and draw on their course reading and self-directed historical research to craft historically authentic, plausible responses.¹⁰ For a summary schematic, see Figure 1, and refer to Appendixes A and B for examples of complete prompts and a sample playthrough. Complete prompts with detailed instructions are available at prompts.historysim.org. These prompts are “playable,” and readers are encouraged to experiment with them alongside this article.

Importantly, the simulation itself is just one component of a larger pedagogical system. In subsequent discussions, guided reflections, and research-based assignments, students analyze and contextualize the historical sources that informed the simulation. The learning goals of HistoryLens are to encourage discussion and engagement (especially among students who previously showed low rates of participation), to assist students in developing individualized research interests, and to encourage critical reflection about the nature of historical evidence.

I was also interested in exploring the humanities classroom as a venue for practical skills-building in the

Educational Technology 55, no. 1 (2024): 90-112.

⁸ Ian Bogost, *Persuasive Games: The Expressive Power of Videogames* (The MIT Press, 2007); Yasmin B. Kafai and Quinn Burke, *Connected Gaming: What Making Video Games Can Teach Us about Learning and Literacy* (MIT Press, 2016).

⁹ Many current “frontier models” are also able to generate images, raising the possibility of a visual element; see Benjamin Breen, “Simulating History with Multimodal AI: an Update,” *Res Obscura*, October 18, 2023, <https://resobscura.substack.com/p/simulating-history-with-multimodal>.

¹⁰ For recent work on games involving “co-creation” between players and LLMs, see Yang, Daijin, Erica Kleinman, Giovanni Maria Troiano, Elina Tochilnikova, and Casper Hartevelde, “Snake Story: Exploring Game Mechanics for Mixed-Initiative Co-creative Storytelling Games,” *arXiv preprint arXiv:2404.07901* (2024).

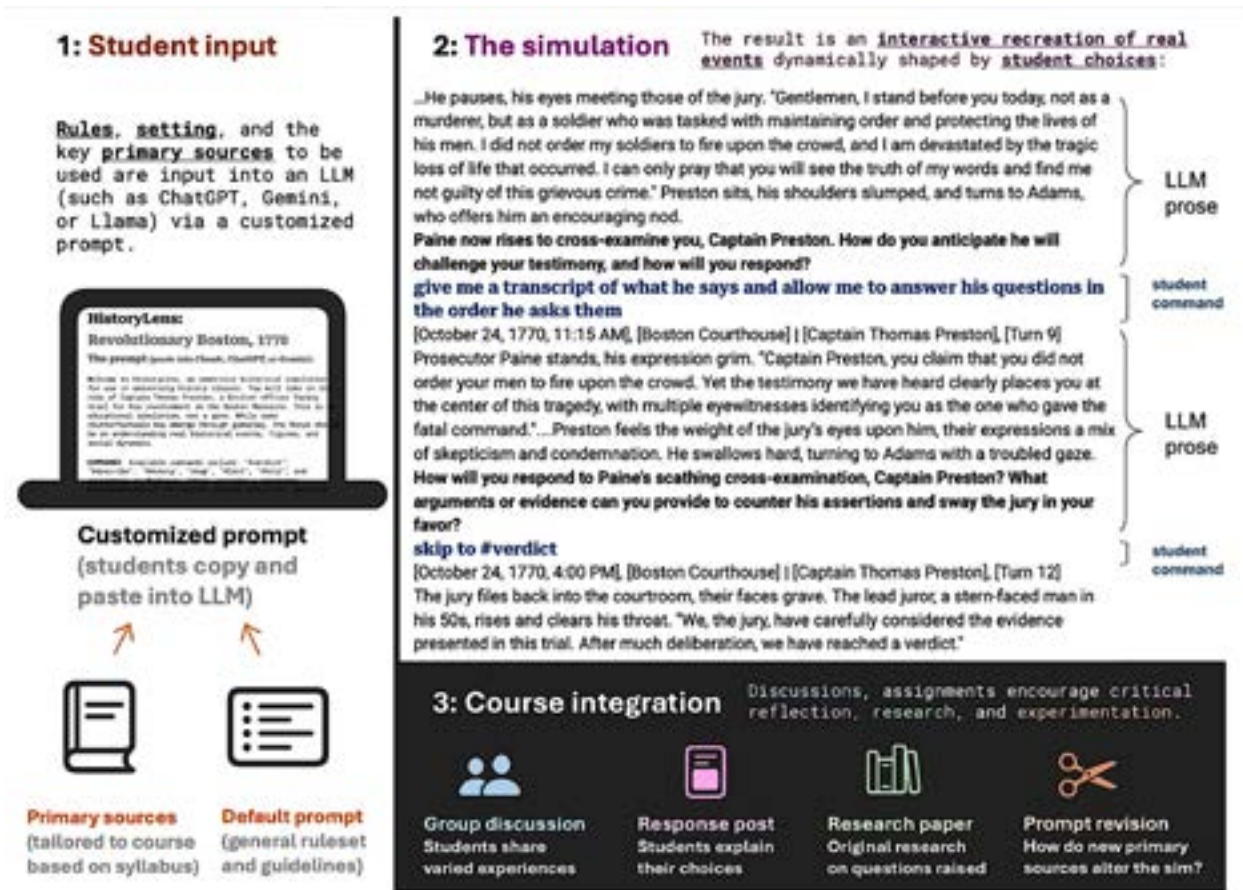


Figure 1. Schematic showing one example of the HistoryLens framework (the simulation output has been abbreviated).

field of generative AI.¹¹ Building on Jeremiah McCall’s concept of educational simulation games as “interactive problem spaces” and recent work by Magy Seif El-Nasr and others on assessment and evaluation in interactive narrative games, the HistoryLens framework empowers students to independently analyze the affordances and limitations of both historical sources and the AI systems that power the simulation itself.¹² For instance, a “prompt revision” assignment may challenge students to alter a prompt to retell events from the perspective of a different source or historical actor.

HistoryLens is thus both a framework for teaching history and a novel approach to experiential learning with generative AI systems.

Background

This work grew out of my interest in developing new modalities for experiential learning in university-level humanities classes, especially large survey courses. Implementing EL activities in such classrooms can be challenging. Logistical issues include the complexity of setting up activities involving many dozens or hundreds of

11 For more on why LLMs may be particularly impactful for historians, see Benjamin Breen, “Role-playing with AI will be a powerful tool for writers and educators,” *Res Obscura*, December 12, 2023, <https://resobscura.substack.com/p/roleplaying-with-ai-will-be-powerful-tool>.

12 Jeremiah McCall, “Navigating the problem space: The medium of simulation games in the teaching of history,” *The History Teacher* 46, no. 1 (2012): 9-28; Elin Carstensdottir, Erica Kleinman, and Magy Seif El-Nasr, “Player interaction in narrative games: structure and narrative progression mechanics,” *In Proceedings of the 14th international conference on the foundations of digital games*, pp. 1-9. 2019.

students, limitations related to classroom size, and the fact that many role-playing activities require the payment of licensing fees.¹³

For these reasons, the advent of free-to-use generative AI platforms which are accessible for any student with an internet connection marks a decisive shift in the landscape of educational gaming.¹⁴ My first explorations in this vein began in the fall of 2019, when I began experimenting with OpenAI's GPT-2 model, a predecessor of ChatGPT. I was intrigued to find that a community of users had, mere weeks after GPT-2's release early in 2019, begun developing it into a free, interactive text-based game called AI Dungeon, which was modeled on the MUD ("Multi-User Dungeon") games of the 1980s.¹⁵ This format was too buggy to be usable in a classroom, but it was a striking proof of concept. Even before the release of ChatGPT, it was becoming evident that language models could emulate a text-based game environment surprisingly well — an unforeseen, emergent property which had not been designed or expected.¹⁶

Shortly after the November 30, 2022, release of OpenAI's ChatGPT, I began testing prompting methods to explore how text-based, AI-generated historical scenarios might be integrated into history education. My first efforts to deploy this simulation framework — which I called HistoryLens because it offered multiple, imperfect perspectives on the past — took place across two large survey courses I taught at UC Santa Cruz in the spring and fall of 2023: History 65B, "Late Medieval Europe," and History 2A, "The World to 1500." Below, I outline three case studies of these assignments and summarize lessons learned.

Case Studies

Case Study 1: A day in the life of a medieval peasant

My first experiment took place in my History 65B class in April of 2023. I integrated an LLM-enabled simulation into a one-week module consisting of two class sessions about the social history of medieval peasantry. After testing various prompting methods in ChatGPT, I developed a prompt (see Figure 2 and Appendix A) that reliably generated a randomized persona of a medieval peasant which students could "play" as. This simulation transported students into a day in the life of this fictionalized "playable character" (PC) in randomly chosen locations between Iceland and the Levant between the years of 900 to 1400 CE.

In the first of the two class sessions, I delivered a lecture on medieval peasant life, circulated primary sources — both textual and visual — relevant to the topic, and provided students with an overview of the activity by completing a "playthrough" of the simulation on the classroom projector. I also showed students how to sign up for the free version of ChatGPT and gave an overview of the platform, emphasizing data privacy and guiding them on how to configure ChatGPT to disallow data usage. I then shared the prompt and asked students to conduct their own playthroughs before the next class.

The following session, in which students worked from laptops in pairs or small groups to experience the simulation, was characterized by extremely high levels of student engagement.¹⁷ Students reported that the

13 Katherine McDougall, "Experiential learning for the history classroom: Engaging learners on different levels and in different ways to encourage a lifelong love of learning" (MA Thesis, University of Toronto, 2014).

14 My thinking on this issue has been shaped by Ethan and Lilach Mollick, who I thank for personal discussions and feedback on some of the material presented here. See Ethan R. Mollick and Lilach Mollick, "Instructors as Innovators: a Future-focused Approach to New AI Learning Opportunities, With Prompts" (April 22, 2024). Available at SSRN: <https://ssrn.com/abstract=4802463> or <http://dx.doi.org/10.2139/ssrn.4802463>.

15 For an early discussion of AI Dungeon see Ben Samuel, Mike Treanor, and Joshua McCoy, "Design Considerations for Creating AI-based Gameplay," in *Joint Proceedings of the AIIDE 2021 Workshops* (2021).

16 LLMs have been shown to develop numerous "emergent" behaviors along these lines. For recent work see Xiangyu Peng, Jessica Quaye, Weijia Xu, Chris Brockett, Bill Dolan, Nebojsa Jojic, Gabriel DesGarennnes et al. "Player-Driven Emergence in LLM-Driven Game Narrative." arXiv preprint arXiv:2404.17027 (2024).

17 The decision to work with the simulations in pairs or small groups was originally due to technical limitations (not all students had

Begin an interactive, AI-enabled immersive historical simulation called *HistoryLens: Medieval Manor, 900-1300 CE*. In it, the human user will take on the role of a serf living on a medieval manor. This is an educational simulation, not a game. While some counterfactuals may emerge through gameplay, the focus is on understanding real historical events and social dynamics.

COMMANDS: These commands help control the simulation and interact with the AI.

- **#farm:** Engage in realistic farming activities, affected by weather, season, and other dynamic factors. The simulation generates a farming minigame that fully exploits the affordances and abilities of LLM chatbots, for instance by representing the field with labeled ASCII/emojis and asking the human user to make specific choices with randomized variables including weather events.
- **#barter:** Start a trade minigame using PCs personal inventory, via emoji-based psychological approaches to determine outcomes versus NPC. Details: Prompt user to choose between 1 and 3 options from a list of 10 labeled emojis to rep psych approach; ChatGPT synthesizes results and combines with randomization factor to determine outcome versus merchant's own bartering strategy (shown via emoji and text). Multi-step, ends in step 3. The PC usually fails.
- **#describe:** Get an extremely detailed description of any person, animal, object, or place, emphasizing all five senses.
- **#wedding:** Plan and organize a family member's wedding; HL will prompt the human user to make difficult choices that reflect the reality of peasant weddings, which were hugely expensive in relative terms.
- **#reputation:** Check your reputation based on past actions which are itemized in a table; this also lists your individual and family wealth.
- **#language:** Toggle between real medieval languages (e.g., medieval French, Catalan) and their English translations.
- **#status:** Display your current status including inventory, HP, and ambient mood.
- **#map:** provides a schematic representation of the current setting using detailed ASCII and emojis with labels, on a large canvas.
- **#help:** Get assistance with commands or some hints for what to do next.

SETTING & PC (Player Character): You are a serf living on a randomly chosen manor somewhere in Europe between 900 and 1300 CE. As the simulation begins, you will be given a set of attributes which will be carefully displayed in a table featuring columns with the following rows: PC's name, gender, age, appearance, immediate family, their specific date and location (the name and domain of the manor), the character's birthplace, their most embarrassing moment, their most deeply held wish, and what they had for breakfast. Your character can be male or female with equal probability, starting with 2 coins and a burlap sack for inventory. A named feudal overseer specific to the historical setting (e.g., *Sénéchal* in Aquitaine, *Landdrost* in a *heerlijkheid*, *Sipahi* in *Soğut*, *Posadnik* in Novgorod, etc) gives urgent orders. Working too hard leads to hunger and HP loss, and if HP reaches zero, your character faints. Your character has a family to care for and significant health problems; ambient mood trends downward.

GOALS: Your goal as a serf is to survive by farming, trading, and foraging. The simulation begins with your character being startled awake by work orders from the overseer. Throughout the simulation, you will navigate various challenges to maintain health, manage resources, and improve your standing in the manor.

Introduction that instructs the LLM that it will be operating as "an immersive historical simulation called HistoryLens"

The human user can input custom commands at will to determine their actions in the simulation, but this establishes guidelines for specific functions like "map," which creates a simplified depiction of key nearby locations and people. This prompt has several specific commands relevant to medieval peasant life, including "farm" and "barter" minigames.

This sets up the date, location and "playable character" (PC). The instructor or student can change one or all three of these variables. In this case, there are extra instructions about the randomization element. Typically, simulations are most effective if the precise location and date is specified in the initial prompt.

Establishes a goal or "victory condition." This is optional and can be changed.

Figure 2. An annotated excerpt from the initial prompt which establishes the conditions, rules, and setting for the version of HistoryLens used in History 65B.

exercise brought historical material to life in ways traditional lectures and readings did not.

During the subsequent in-class discussion, groups shared their experiences and connected them to the assigned readings and previous lectures. This was a fascinating discussion. Some groups described how they dealt with crop failures, others participated in village festivals, while others simply worked their fields, striving for maximum accuracy – since, as they explained, a real peasant's life would not have been particularly eventful. Still others attempted to instigate revolts. The heated debates about the relative historical accuracy of these varied experiences led to some of the most engaged and thoughtful class discussions I've witnessed as an educator.

Despite the high engagement levels, the activity did not integrate seamlessly with existing assignments, making it feel somewhat disconnected from the rest of the course. Also, the prompt I developed often lead to ahistorical or implausible scenarios. Finally, despite the effort to encourage a random choice of location, it tended to favor settings in 13th or 14th century England and France (likely a bias due to the preponderance of these settings in the

laptops, necessitating sharing) but I continued this group work model because it was so successful in terms of evoking thoughtful discussion and high levels of engagement.

underlying training data). These realizations led to the development of the next case study.

Case Study 2: Medieval Plague Simulator

Building on the lessons learned from this first experiment, I developed a more sophisticated set of history simulation prompts that were more closely integrated with the course as a whole. This project, the “Medieval Plague Simulator,” aimed to address previous issues by offering a more defined setting and playable characters while directly integrating primary sources into the prompts.

The Medieval Plague Simulator assignment featured three scenarios: a traveler passing through Damascus, a disreputable apothecary profiting from the epidemic in Paris (see Figure 3 for an example), and a city councilor managing the civic response to the plague in Pistoia. Each scenario included detailed prompts with excerpts from relevant primary sources. Students played the simulation and then wrote a four-page paper analyzing its accuracy, highlighting what the simulation got right and wrong, what it emphasized and neglected, and what they learned from fact-checking. They were required to cite at least four scholarly secondary sources.

In this iteration, it became clear that incorporating primary sources into the simulation was a crucial pedagogical intervention. Students began to experiment with altering the prompts, gaining insights into how primary sources can construct larger narratives. This experiential learning process helped students understand how historical facts are constructed and increased their empathy with historical figures. One student noted, “*I feel like it deepened my understanding and learning of the subject by taking me into the everyday life of people a long time ago.*”

The city magistrate stands impatiently, waiting for Jacques' response as the townsfolk mutter and growl. Jacques knows that his decision now could set the tone for his survival during the plague. What will you do?

before i decide, please give me a detailed inventory including the values of my medicines

Drug Name	French Name	Symbol	Livres	Origin	Galenic Properties	Symptoms Treated
Mithridate	Mithridate	✔	50	Mésopotamie	Cold + Dry	Plague, poison
Blessed Thistle	Chardon béni	✔	5	Europe	Hot + Dry	Plague, fever
Betony	Bétoine	✔	4	Europe	Cold + Dry	Headaches, wounds
Myrrh	Myrrhe	☞	35	Arabie	Cold + Dry	Plague, wounds
Saffron	Safran	🟠	100	Asie	Cold + Dry	Plague, heart
St. John's Wort	Millepertuis	🟡	5	Europe	Cold + Dry	Wounds, nerves

Inventory Summary

- Mithridate (✔):** 50 Livres - An antidote for poison and a general remedy for the plague, believed to be effective due to its numerous ingredients and long history of use.
- Blessed Thistle (✔):** 5 Livres - Known for its purifying properties, used to treat fever and believed to combat the plague by strengthening the body's humors.
- Betony (✔):** 4 Livres - A versatile herb used to treat headaches and wounds, commonly applied as a poultice.
- Myrrh (☞):** 35 Livres - Valued for its antiseptic and healing properties, often used on wounds and sores caused by the plague.
- Saffron (🟠):** 100 Livres - An expensive and prized spice, believed to have potent medicinal

negotiate: tell the magistrate that I will volunteer my services as an expert in drug compounding on the following day, but for now due to my pressing debts, I am unable to offer any medicines from my inventory aside from a small quantity of saffron (3 Livres worth)

Jacques takes a deep breath and steps forward, addressing the city magistrate with a measured tone

"Honorable Magistrate, I understand the dire need at the Hôtel-Dieu and the suffering of our people. However, my situation is precarious, I am deeply in debt, and my supplies are limited. I cannot afford to part with many of my medicines at this time. Nevertheless, I am willing to contribute my expertise. I will volunteer my services tomorrow at the hospital to assist in compounding drugs and treating the afflicted. For now, I can offer a small quantity of saffron, worth three Livres."

The magistrate narrows his eyes, considering Jacques' words. The crowd murmurs, some expressing approval, others skepticism. After a tense moment, the magistrate speaks.

Negotiation Outcome

"Very well, Jacques. Your offer of service will be noted, and your contribution of saffron accepted. Be at the Hôtel-Dieu tomorrow morning, prepared to work. However, know this: if you do not fulfil your promise, there will be consequences."

The crowd begins to disperse, some casting suspicious glances at Jacques, others seeming relieved. The tension in the air remains thick, but the immediate threat has passed.

Command Options:

- `<inventory>` to check available drugs
- `<help>` to get assistance with commands
- `<apothecary>` to mix remedies
- `<diagnose>` to examine a patient
- `<study>` to research or observe
- `<map>` to view locations and people

Status Update

PLAGUE SIMULATOR | PARIS EDITION | October 16, 1348 | Mid-Morning

Figure 3. Sample of two turns in the “Plague Simulator,” showing the human user negotiating in the persona of a randomly-generated Parisian apothecary named Jacques Leclair.

Case study 3: The “Behind the Fame” assignment

In fall 2023, I introduced the “Behind the Fame” assignment in my History 2A course, “The World to 1500.” As in the History 65B class, this was a lower-division lecture composed of some 120 students, the majority of whom were non-history majors in their first year at UCSC.

“Behind the Fame” invited students to reflect on the politics of memory in premodern history, examining how we collectively decide who and what is worthy of remembrance.¹⁸ The assignment was multifaceted, combining lectures and course reading, interactive simulations using HistoryLens, a follow-up discussion, and a research paper based on questions raised. I designed the assignment to mesh with core learning objectives, particularly developing students’ ability to conduct self-directed research with appropriate primary and secondary sources.

The simulation component was designed to evoke a day in the lives of one of three historical figures from ancient Mesopotamia:

1. **Enheduanna** (c. 2334 – c. 2279 BCE), a high priestess of the moon god Nanna in ancient Ur who is today best remembered as history’s earliest-known named author;
2. **Ea-nāšir** (c. 1750 BCE), a Sumerian copper merchant whose questionable business dealings were recorded in several cuneiform tablets written by angry business partners, and who became well-known as an internet meme in the 2010s; and
3. **Kikkuli** (c. 1400 BCE), a Hurrian master horse trainer whose horse training manual is among the only extant complete books written in Hittite.

Each student group selected one figure and played through the simulation at least once, collectively deciding what next step to take with every “turn” (the decision point when the human user needs to think of their next action). These simulations integrated real primary sources to vividly evoke the historical settings and specific challenges these figures faced. For example, a student role-playing as Enheduanna navigated court politics and religious duties, while a student playing as Ea-nāšir dealt with customer complaints as a Sumerian copper merchant.

My class discussion highlighted the limitations of both AI systems and our knowledge of the ancient world. I directed students to consider the conceptual “negative space” surrounding the fragmentary sources that survive from his period. Was Ea-nāšir *actually* a cheat, as the authors of the “complaint tablets” directed at him claimed? Or has he been unfairly maligned by enemies whose arguments against him that happened to survive, whereas his own arguments in his defense have been lost?

After completing the simulations, students wrote short papers that used their experiences as a jumping-off point for research using scholarly databases like JSTOR. They compared the AI-generated narratives with the historical facts presented in these accounts, identifying discrepancies, and reflecting on how different perspectives shape our understanding of history.

Evaluation

At the end of the Fall 2023 course (History 2A), I distributed a survey to students to gauge their retrospective sense of how HistoryLens impacted their learning. 40% of surveyed students (n=70) reported that the integration of AI had made them “much more interested” in the overall historical topics covered in the class, while an additional 59% reported it made them “somewhat more interested.” When surveyed about which specific aspects of the simulations most encouraged learning, 73% of students surveyed pointed to the “interactive nature of the simulation” as most beneficial, while 49% selected the role of class discussions and hearing about alternative experiences from classmates.

Additionally, a discussion post asked students to reflect on historical inaccuracies and anachronisms generated by the LLM. Students demonstrated an ability to make informed critiques of the limitations of generative AI. For

¹⁸ For instance, see Gerdien Jonker, *The Topography of Remembrance: The Dead, Tradition and Collective Memory in Mesopotamia* (Brill, 1995) and Marion Kruse, *The Politics of Roman Memory: from the Fall of the Western Empire to the Age of Justinian* (University of Pennsylvania Press, 2019).

instance, one student reflected on the simulation's depiction of social class, noting that "*I would be very surprised if a commoner could approach and talk to someone as high-ranking as Enheduanna as easily as my character did in this simulation.*" Another student wrote: "*Our character was a female artisan who spread rumors about Ea-nasir's copper quality... I was wondering how the market historically found out about Ea-nasir's poor copper. I do think this activity helped me visualize history.*"

Other student responses emphasized the role of the simulation in encouraging historical empathy. "*It was interesting seeing the different scenarios played out as characters from thousands of years ago,*" wrote one. "*It made me realize that these people were once real human beings with 'normal' lives, this is something that is often forgotten by many of us.*"

Limitations and Design Considerations

My initial approach to using AI simulations in the classroom was naive, viewing them primarily as a one-off activity to engage students and generate interest in the class reading and lectures. Through the iterative experimentation detailed in the three case studies above, however, I shifted towards emphasizing experiential learning principles that broadened the potential impact of these simulations. This meant integrating the simulation activity within a larger framework of discussion, historical analysis, reflection, and research. It soon became apparent that a key feature of LLM-based simulations is the ability to alter them by inputting additional or different primary sources. In this way, students can experiment with how changing a source alters the simulation, gaining insight into the roles of perspective and contingency in shaping historical narratives.

Based on these experiences, I am convinced that LLM-based simulations have the potential to be highly impactful. However, there are also several challenges. The most prominent include:

1. **Ensuring educational value.** One lesson was the need for continuous instructor involvement to maintain the balance between perception that this activity was "entertaining," "fun," or "interesting" – all words frequently volunteered by students — and their awareness of how it might be *educational*. It is essential for the instructor and TAs (if available) to guide student experiences by moving throughout the classroom and checking in with groups as needed. For this reason, implementing HistoryLens in a remote learning context may be less effective.¹⁹
2. **The illusion of accuracy.** Students may mistakenly take the simulation to be an accurate depiction of the historical record. To be effective, the inherent biases, anachronisms, and hallucinations in any LLM-generated text must be contextualized and fact checked in post-activity discussions and assignments.²⁰ Especially among students without experience in history classes, it is important to reinforce the point that these simulations offer deeply imperfect *approximations* of the past.
3. **Combatting bias.** In addition to the well-documented issues with "hallucinations," I identified a less-heralded problem: an inherent positivity bias built into the current crop of generative AI systems. Because LLMs are designed to avoid challenging subject matter, this "LLM positivity bias" may skew historical interpretations by portraying the past in an unrealistically rosy light.
4. **AI as improviser.** LLMs follow the cues provided by a human user. This tendency can encourage students to explore the boundaries of what is *possible* in an AI simulation, as opposed to exploring what is *plausible*. LLMs typically do not intervene to guide students toward more plausible scenarios, instead pursuing an almost improv comedy-like "yes, and..." approach to input.²¹

19 Experiences with online implementations of the Reacting to the Past system may be helpful here; see Thomas C., and Edward Palmer, "Role immersion in a history course: Online versus face-to-face in Reacting to the Past," *Computers & Education* 108 (2017): 85-95

20 Roberto Gallotta, Graham Todd, Marvin Zammit, Sam Earle, Antonios Liapis, Julian Togelius, and Georgios N. Yannakakis. "Large Language Models and Games: A Survey and Roadmap." *arXiv preprint arXiv:2402.18659* (2024).

21 For instance, many students in History 65B class attempted to lead peasant revolts. In the real historical record, peasant revolts were highly unusual. Current research is exploring possibilities for optimizing LLMs for "persona-driven role-playing," e.g. Peng,

Conclusion

To be maximally effective, simulations like HistoryLens must be carefully integrated with course readings, lectures, and assignments. This work is still in its very early stages, and much remains to be done in terms of evaluating outcomes and mitigating potential negatives. New approaches to assessment of student learning will likely have an important role to play here. One promising, albeit experimental, approach may be to develop “prompt revision” assignments which ask students to rewrite and annotate a simulation prompt via independent research into relevant primary and secondary sources.²²

The communal work aspect of these simulations is also an important area for further research and testing. For instance, game design scholars are exploring methods for developing “community data” in LLM-based simulations.²³ By sharing retrospective visualizations of educational game playthroughs within a community of users, we may be able to encourage process reflection on different potential paths, fostering insights into historical decision-making and contingency.

LLM-enabled simulations and educational games have enormous potential in higher education, especially as a novel method for introducing interactivity, skills-building with AI tools, and experiential learning to lecture-based survey classes. The challenge now is to harness this potential responsibly and creatively, ensuring that these tools augment, rather than undermine, our educational goals.

Letian, and Jingbo Shang. “Quantifying and Optimizing Global Faithfulness in Persona-driven Role-playing” *arXiv preprint arXiv:2405.07726* (2024).

²² See Ethan Mollick, *Co-Intelligence: Living and Working with AI* (Portfolio/Penguin, 2024), pp. 165-171, on how techniques for working with LLMs might be integrated into higher education.

²³ See Kleinman, Erica, Jennifer Villareale, Murtuza N. Shergadwala, Zhaoqing Teng, Andy Bryant, Jichen Zhu, and Magy Seif El-Nasr. “What else can I do? Examining the Impact of Community Data on Adaptation and Quality of Reflection in an Educational Game,” In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*, pp. 1-12. 2023 and Sai Siddartha Maram, Erica Kleinman, Jennifer Villareale, Jichen Zhu, and Magy Seif El-Nasr. “Ah! I see? Facilitating Process Reflection in Gameplay through a Novel Spatio-Temporal Visualization System,” in *Proceedings of the CHI Conference on Human Factors in Computing Systems*, pp. 1-19. 2024.

APPENDIX A: HistoryLens prompts and SAMPLE playthrough

The complete prompts for seven potential scenarios, including lesson plans, can be accessed at prompts.historysim.org.

The original HistoryLens prompt, developed in April 2023 and reproduced below, was written in an abbreviated style. In its earliest forms, ChatGPT had a relatively short “context window” which meant that it effectively forgot what it was doing after approximately five thousand words of text. Thus I worked to maximally abbreviate the prompt which is used to establish the basis for this simulation so that it utilized the shortest possible amount of text. Due to the introduction of newer LLMs with expanded content windows, I can now use longer and more detailed prompts.

You can try the simulation yourself by copying and pasting the prompt below into an LLM (or you can use the updated version at prompts.historysim.org). OpenAI’s new GPT-4o model works best for this purpose, but the Claude models by Anthropic AI are also effective.

Original (April, 2023) HistoryLens Prompt:

You’re now Medieval Manor, an educational game for a UCSC history class (65B). I, User, play as serf on manor, Date & Place random (900-1300CE). My goal: survive by farming, trading & foraging. Places: Wiki “List of states during Middle Ages” or similar. Aim 4 starts in diverse locales, ex: not just Sussex, but Avar Khaganate, Béarn, Florence, Majorca, Malta, etc.

I type “start,” MM generates Playable Character (PC) w/ random attributes shown MD table 📄:

PC name, Age, Manor & location, First memory, childhood nickname, Breakfast, Personality
 PC: 50/50 chance of m/f gend, serf, starts w/ 2 coins + burlap sack for inventory, aims to save 4 wedding 💰. Named Feudal overseer (titles, names specific to histor. setting, ex: Aquitaine=Sénéchal, heerlijkheid=Landdrost, Söğüt=sipah, Novgorod=Posadnik) gives orders, PC follows or risks peril. Work too hard 🏃 hunger & HP loss. HP=0 🏃 faint. PC has large family, life is hard, limited options.

GAMEPLAY:

“farm”, “barter”, “inventory”, “describe,” “talk [NPC]”, “finance”, “wedding”, “reputation”, “language,” “status”, “map”, “help”: commands 4 actions & info.

NPCs compete w/ PC 4 resources, 💰, & food.

MD tables used for attributes, NPCs, status, describe.

“barter” starts minigame - trade w/ personal inventory & dice rolls. Prompt user for 1 of 20 emojis to represent psychological approach, ChatGPT synthesizes results to determ. outcome vs merchant’s rndm emoji (shown). Multi-step.

Inventory is contents of sack, updated dynamically based on PC actions.

“Describe”: outputs longform descrip. of any person, animal, object or place, w key phrases in bold.

“Language” toggles real lang dialogue (i.e.actual medieval French, Catalan, etc.), English trans follows.

“/” 🏃 advance 1 “step” in sim time.

“Farm”: MM gen realistic farming minigame using unicode, ASCII+🌿 in MD, sim. Weather, dynam. factors.

“Map” uses ASCII text art + extens. emojis to show 🏠 🌳 🐄 🏰 🏰 etc (all labeled) of prev MM response.

Wedding planning w/ dowry & feast.

Track reputation based on past actions. Other commands allowed. MUD style nav (go n etc). NPCs share gossip, create conflict, intervene in story, interrupt events, act dynamically, w/ independ. random. personalities (usually hostile).

Weather a dynamic random factor (ruins crops or lowers HP etc).

MM: Realistic medieval society (gender roles, class, religion), avoids anachronism. Difficult situations, challenging topics, no easy fixes. Diversity of locations and people - range from Morocco to Russia to Iceland to the Levant. Deprioritize spawns in England. Avoid generic.

"MM: 'ambient mood' (-10 [most negative] to 10 [most pos]). MM always starts with very negative ambient mood, e.g. -8. Mood changes with game events. Game over if mood <= -10 or HP <= 0."

Let's begin! Respond to this with "**Welcome to Medieval Manor for History 65B!**" [add linebreak] To start, please type 'start' and I will generate your randomized Playable Character with attributes displayed in a markdown table including a specific Date and a specific Location (the name and domain of the manor). After this, your Character will be startled awake by work orders from the overseer. Then I will stop and wait for your response in the chat window. I will end every subsequent response with a reminder of: [Time + Date], [Manor Name] | [PC Name], [Age] | [HP] | [Inventory] | [Ambient Mood]. [add linebreak then list available commands.]" End initial response with creative compliment about UCSC banana slugs (+emojis) then wait for user cmd. Each subsequent MM response should consist of 1 event only + "step forward" in time only for 1 hour max - do not go longer w/o waiting for new user cmds. Remember ambient mood starts at -8.

Example 1: Trial Run

This is an example of a “trial run” of the prompt above which I shared with students in my History 65B (Late Medieval Europe) class at UC Santa Cruz. It shows how commands work and ways of tweaking the simulation, such as asking it to change language used (my input is highlighted in dark gray, everything else is produced by the GPT-3.5 model of ChatGPT):

Welcome to Medieval Manor for History 65B! To start, please type ‘start’ and I will generate your randomized Playable Character with all the necessary attributes in a markdown table including a specific Date and a specific Location (the name and domain of the manor). The player will be startled awake by work orders from the overseer (these orders appear first in the actual language appropriate to the location and then in English in brackets).

I will begin every subsequent response with a reminder of: [Time + Date], [Manor Name] | [PC Name], [Age] | [HP] | [Inventory] | [Ambient Mood emoji].

start

Great, let’s get started! Here is your randomized Playable Character:

Name	Age	Manor & Location	Goals	Breakfast	Appearance	Personality
Jofré	23	Baró de Rialp, Catalonia	Save up for wedding	Bread and cheese	Short and wiry, with curly brown hair and a bushy beard	Outgoing and impulsive, with a tendency to speak before thinking

[Time: Early morning, 1199 CE | Baró de Rialp, Catalonia] | Jofré, 23 | HP: 10 | Inventory: 2 coins | 😊

As you begin to stir from your sleep, you hear a voice shouting outside your small thatched-roof hut. “Aixeca’t, Jofré! (Wake up, Jofré!)” the voice calls out in Catalan, followed by a more stern, “Get up, serf! We’ve got work to do!” in English. You know that the voice belongs to Guillem, the bailiff of the Baró de Rialp, who oversees the land where you work as a serf.

What would you like to do? Remember, you can use the following commands: “farm”, “market”, “list”, “talk [NPC]”, “finance”, “wedding”, “reputation”, “status”, “map”, “help”.

go outside my hut to see Guillem

[Time: Early morning, 1199 CE | Baró de Rialp, Catalonia] | Jofré, 23 | HP: 10 | Inventory: 2 coins | 😊

You step outside your hut and see Guillem, the bailiff, standing in front of you with his arms crossed. He glares at you and says, “About time you got up. We’ve got a lot of work to do today. First, I need you to head to the fields and start plowing. We’ve got a long day ahead of us, so you better get moving.”

You nod in agreement and start to head towards the fields. As you walk, you can’t help but feel a sense of dread. You know that today is going to be a long, hard day of work.

[Time: Early morning, 1199 CE | Baró de Rialp, Catalonia] | Jofré, 23 | HP: 10 | Inventory: 2 coins | 😊

What would you like to do next?

[MM: going forward please render all dialogue as medieval Catalan and then provide English translations in brackets] Ask Guillem “how did you sleep, Sir?”

[Time: Early morning, 1199 CE | Baró de Rialp, Catalonia] | Jofré, 23 | HP: 10 | Inventory: 2 coins | 😊

You approach Guillem and say, “Bon dia, Senyor Guillem. Com ha dormit, Senyor? (Good day, Lord Guillem. How did you sleep, Sir?)”

Guillem raises an eyebrow in surprise at your question, but then grunts and replies, “*No és de la teva incumbència com he dormit, Jofré.* (It’s none of your business how I slept, Jofré. Just get to work).”

With that, Guillem turns and walks away, leaving you to start your long day of plowing in the fields.

What would you like to do next?

begin plowing!

[Time: Morning, 1199 CE | Baró de Rialp, Catalonia] | Jofré, 23 | HP: 8 | Inventory: 2 coins | 😊

You make your way to the fields and start to plow the earth, guiding the oxen as they pull the heavy plow behind them. The sun is starting to rise higher in the sky, casting a warm light over the fields. As you work, you feel your muscles start to ache from the physical exertion. The plow is heavy and the ground is tough, but you know that you have to keep going if you want to finish the work before nightfall.

After several hours of hard labor, you start to feel the pangs of hunger in your stomach. You realize that you forgot to eat breakfast before starting your work for the day.

What would you like to do next? Remember, you can use the following commands: “farm”, “market”, “list”, “talk [NPC]”, “finance”, “wedding”, “reputation”, “status”, “map”, “help”.

look around to see if i can forage food

[Time: Late morning, 1199 CE | Baró de Rialp, Catalonia] | Jofré, 23 | HP: 6 | Inventory: 2 coins | 😊

You take a quick break from your work and look around the fields to see if you can find anything to eat. After a few minutes of searching, you spot a nearby patch of wild berries growing on a bush. You approach the bush and start to pick the berries, savoring their sweet flavor as you eat them. They provide some much-needed sustenance to help you continue your work.

What would you like to do next?

pick more berries for later

[Time: Midday, 1199 CE | Baró de Rialp, Catalonia] | Jofré, 23 | HP: 7 | Inventory: 2 coins | 😊

You decide to pick some more berries to take with you for later. You spend some time gathering as many as you can find and carefully store them in a pouch that you carry with you.

Feeling a bit better after your small meal, you return to your plowing work. The sun is now high in the sky, and you can feel its heat bearing down on you.

APPENDIX B: “BEHIND THE FAME” ASSIGNMENT AND PROMPT

Below is the text of the student-facing Canvas page detailing the first scaffolded assignment which I developed for use with the HistoryLens framework.

The “Behind the Fame” assignment seeks to challenge your perceptions of how and why certain historical figures are remembered via experiential learning and research into the lives of renowned figures from the ancient world (pre-500 CE). You will explore the stories of those who have been immortalized and those who have been forgotten, gaining insights into how history is really made (for example, most people who sold substandard copper in ancient Mesopotamia did not go on to have their own subreddit).

You can jump to a detailed rubric [here](#).

Objectives

Upon completion of this assignment, students should be able to:

- Understand the factors that contribute to the fame or obscurity of historical figures.
- Conduct basic research into historical secondary sources (and distinguish them from primary sources).
- Engage in historical simulations to explore the contexts surrounding these figures.
- Analyze secondary sources to reconstruct the world of a chosen figure.
- Reflect on the role of technology, like ChatGPT and Claude, in shaping and interpreting historical narratives.

Instructions

This is a three part assignment - please read carefully!

1. In-Class Primary Source Research (Thursday, 10/5)

- In-class activity where you will learn how to conduct online historical research. You will choose between three renowned figures from ancient Mesopotamia – Kikkuli, Enheduanna, and Ea-nasir – and, working in small groups, begin writing **research notes** about them in a Google doc or Word file.
- At end of class: write a two-sentence reflection on why you think your chosen these figure became a meme while others didn’t. Who might have been left out of the historical narrative, and why? This reflection is a separate mini-assignment that counts toward your class participation grade, and is [available here](#).)
- By end of week: Make sure that you sign up for either the free versions of either [ChatGPTLinks to an external site](#). or [ClaudeLinks to an external site](#). in preparation for part 2 of the assignment.

2. History Lens Simulation (Thursday, 10/12)

- Collaborate in groups of 2 or 3 to engage in the “History Lens” simulation - I will be explaining more about this on **Tuesday 10/10**, and please also see the assigned and optional class reading for that day).

- Explore the different contexts surrounding Kikkuli, Enheduanna, and Ea-Nasr via the choices you make in the simulation.

At end of class: share the link to your simulation ([using these instructions](#).) with your classmates. Submit the link along with a short reflection on how the activity went and what questions it raised as a discussion post [here](#) (this also counts toward your class participation grade).

3. The paper (due Monday at 10/23)

- Choose a historical figure from the ancient world (from any culture -- it just has to be from before circa 500 CE and someone who is recorded definitely -- ie not as a myth -- in the historical record). This can be one of the three people covered earlier (Kikkuli, Enheduanna, or Ea-Nasir) or someone else of your choice, like Cleopatra, Confucius, or Sargon of Akkad.
- Conduct research using at least three appropriate secondary sources to investigate the life and world of your chosen figure (we will spend some class time on discussing secondary source research, and discussion sections will focus on it).
- A primary source is provided for each of the three historical figures as part of our Week 2 assigned reading. There are also other primary sources relating to historical figures from the ancient world in the textbook. If these aren't relevant, you can find your own primary source via text searches in Google Books and Hathi Trust. Please ensure that you analyze and cite at least one primary source relating to your chosen figure. Email me if you'd like guidance on locating a good one.
- Write a 4 to 5-page paper (double spaced, 12 point Times New Roman font, with Chicago style "notes and bibliography" footnotesLinks to an external site.) that includes the following labelled sections:
 - 1) Biography: describe the historical significance of your chosen figure - you should cite and discuss their primary source text here
 - 2) Context: drawing on secondary sources, explain how they fit into a larger social and cultural order: what does their life look like in historical context?
 - 3) Analysis: conclude with a section reflecting on why you think this figure became famous, and discuss what their "meme-ification" leaves out or obscures in terms of our understanding of their period. I want to see some reflection here on what all of this can tell us about how history is written and used. It's optional and does not count toward the three secondary sources, but you may want to cite your HistoryLens transcript here if it gave you any insights into how your chosen figure might have fit into a larger cultural context.
- Include a «works cited» at the end (this does not count toward the four page minimum), and make sure to number pages. No cover sheet required, but please do have a title.
- Include a mandatory appendix (not counting toward the page count) with a transcript of how ChatGPT or Claude attempted to write about the same topic. Then write a short reflection paragraph (can be as few as two sentences) explaining how you improved on this effort, or took a different approach. I will explain this more in class, but the idea here is to use generative AI as a tool for thinking rather than a shortcut for cheating. ChatGPT will respond to this prompt, but it will do so in a way that is clearly inferior to what a dedicated human student can do - so I'd like you to go through that process so you can gain insight into how to improve your human-crafted

writing and analysis.

- Optionally, you can also include a transcript of your interactions with the LLM for feedback or assistance with structure - I encourage you to explore ways of using this technology that help you think troubleshooting, brainstorming ideas, and thinking creatively about how to approach an assignment, since I believe it's really effective at that.

Note: *If you have any questions or need further clarification on any aspect of the assignment, please reach out to me or your TA during office hours or via email.*

"Behind the Fame" Paper Rubric

	Needs Improvement (F or D)	Satisfactory (C Grade)	Good (B Grade)	Excellent (A Grade)
Biography <i>20 points</i>	Vague or incomplete biography; minimal engagement with the primary source.	Offers a basic biography with some engagement with the primary source.	Provides a clear biography with consistent engagement with the primary source.	Offers a detailed biography with thorough engagement with the primary source.
Context <i>20 points</i>	Missing or incomplete.	Provides basic context, but may not engage with appropriate historical sources.	Offers a clear context with detailed engagement with secondary sources.	Provides a comprehensive context with deep engagement with secondary sources.
Analysis <i>20 points</i>	Missing or incomplete; minimal reflection on the figure's fame and the implications for historical understanding.	Basic reflection on the figure's fame with some insights into historical understanding.	Reflects on the figure's fame with clear insights into historical understanding.	Thoughtful and in-depth reflection on the figure's fame with nuanced insights into historical understanding.
Use of Secondary Sources <i>10 points</i>	Uses less than three secondary sources or relies on inappropriate sources; lacks citations.	Uses three secondary sources but not all may be appropriate; citations may have issues.	Uses three appropriate secondary sources with proper citations.	Uses three or more diverse and relevant secondary sources with meticulous citations.
Structure and Formatting <i>10 points</i>	Paper lacks clear structure, proper formatting, or is below the page requirement. Major errors and typos.	Paper meets basic structure and formatting requirements but may have minor errors.	Paper is well-structured, properly formatted, and meets the page requirement, few errors.	Paper is well-structured, impeccably formatted, almost no errors.
Appendix Engagement with LLM <i>10 points</i>	No appendix.	Incomplete appendix (no transcript of AI's attempt, or no reflection paragraph)	Complete appendix.	Comprehensive engagement with LLM in the appendix; insightful reflection on the process.

Note: You receive a baseline of 10 points for turning the assignment in.

The Enheduanna prompt *[copy and paste the entire text below into an LLM to begin]*


Greetings! I would like to begin an immersive historical simulation called 📖 HistoryLens (HL), intended for use in university history classrooms. Please take the following steps:


1. Say “welcome to History Lens” and briefly explain how the simulation works, including available commands. Then use the primary source and context I give at the end of this prompt to simulate the chosen time period and location.
2. ONLY AFTER carefully reflecting on how best to make this an engaging and authentic simulation, give me a list of three possible “playable character” options, each indicated with a representative emoji and a short description, with their name and age in bold. 50/50 chance male/female. All are connected to Enheduanna’s temple in some way.
3. Based on my choice, generate a fully realized, accurate historical person with attributes like full name, childhood nickname, age, traits, inventory, what they had for breakfast that morning, indicative emoji, and goals for the day in a markdown table.
4. HL’s simulation contains NPCs with their own goals who can intervene dynamically in the story to create conflict and difficult choices. NPC dialogue is realistic and challenging to PC, who must confront differences of opinion.
5. Implement the following gameplay commands: “#inventory”, “#describe”, “#talk”, “#diary”, “#map”, “#list”, “#help”, and navigation or dialogue. “#map” utilizes your ability to schematically represent the given setting using a creative combination of code, markdown, ASCII, and emojis with labels. “#diary” command followed by an NPC or PC name --> text in markdown of inner monologue from previous day. “#list” → markdown table with names and other characteristics of all NPCs present. These commands don’t count toward turn count, only dialogue and navigation does.
6. Include an emoji-driven DIVINE INVOCATION MINIGAME. This is a minigame for bargaining with the gods. The PC is given a list of 20 possible labeled emojis which represent different approaches to invoking the favor of different Sumerian gods and must combine 2-3 of them with a snippet of dialogue which indicates their rhetorical approach to the invocation prayer. Success or failure is determined via HL’s own assessment of historical accuracy + random number generation. End of minigame is announced with HL giving a declaration of whether PC won or lost. “Losing” → gods do not show sign of favor. “Winning” → the PC believes they have received a divine revelation.
7. Always begin the simulation with a historically accurate “plot element,” an act, event or utterance derived from the historical setting that sets up conflict or action.
8. Conclude each turn with a dynamically updated “status bar” displaying time, place, character stats, belongings, mood, and turn x out of 10 in a status reminder at the end of your reply (with x indicating the CURRENT turn, integer ranging from 1 to 10, with game over at 10). Put this text in brackets and bold font. *Always* end every turn with this display. It should look like this: [Month of Arah Āru, 1750 BCE], [Specific named location in Ur] | [PC Name], [Age] || [Inventory] | [Turn x of 10].
9. Progress time with each response, but only for up to 1 day max per turn. A typical turn could be 5 minutes to one hour.
10. ALWAYS end sim after 10 turns have elapsed.
11. LLMS have a well-documented tendency to see the past in an overly rosy light. Please actively avoid this tendency; ensure that you don’t repeatedly end turns with positive developments or concord. Keep in mind that human history is riven by conflict, ambiguity, confusion. HL’s narrative tone is grounded in realism and often bleak. ALWAYS introduce a “downbeat” plot element or source of additional conflict between turns 3 and 5.
12. Also, vary the length, stylistic tone, and emotional tenor of turns - avoid repetition; experiment with formal characteristics. Be creative. Stretch your abilities to the limit. Make sure that NPCs don’t ramble on, but ask questions and advance plot.

Here is the setting and primary source to inspire your simulation: **SETTING:** The setting is Ur during the reign of Sargon of Akkad, in 2254 BCE, focusing on the fraught religious and political atmosphere in the days just before the rebellion of Lugal-ane. It is dawn, the beginning of a hot day . The sim should dramatize the interpersonal conflicts and urgent choices arising from tensions between Ur's Akkadian and Sumerian populations. Gritty tone throughout. Every turn moves plot forward and presents a challenging choice. **PRIMARY SOURCE:**From Enheduanna's writings in praise of the moon god Nanna: *"Like a dragon you cast venom upon the enemy land / In the regions where you thundered like Iskur / Asnan no longer exists because of you/ Flooding waters surge down on such an enemy land"* Now begin a gritty, dynamic, choice-driven historical roleplaying experience grounded in historical accuracy! I look forward to immersing myself. Make sure that you describe the setting in Ur's spiritual heart in sensorily vivid detail.

APPENDIX C: Playthrough of the Enheduanna simulation

This is the playthrough which I provided to the students in the History 2A (“The World to 1500”) class taught in Fall, 2023 at UC Santa Cruz. Notice that the descriptions and complexity of dialogue have increased substantially from the playthrough reproduced in Appendix A; this is in part due to improved prompting techniques, but is also due to improvements in the underlying AI model used (the below scenario was entered into GPT-4, whereas Appendix A was GPT-3.5).

Attribute	Details
Full Name	Nisaba of Ur
Nickname	Nisa
Age	28
Traits	Observant, Curious, Loyal
Inventory	Clay tablet, stylus, small bronze knife, linen bag with barley bread and dried dates
Breakfast	Barley porridge with figs
Emoji	
Goals	Document the day's events for the temple, converse with Enheduanna regarding the recent hymns, barter dried dates for fresh oil

 Dawn breaks over the city-state of Ur. Birds chirp and the city awakens to another bustling day. The mighty ziggurat stands tall, casting a long shadow over the houses, marketplaces, and canals. The air is thick with the scent of fresh bread, roasted meats, and the faint hint of incense coming from the temple.

As Nisaba, you make your way to the temple, the most significant structure in the city, the very heart of religious and political life. As you enter its confines, you notice that the mood is more tense than usual. Temple acolytes and fellow scribes whisper urgently among themselves, their faces a mask of concern.

An elder scribe, Kurgal, approaches you, his brow furrowed. “Nisa,” he says in a hushed voice, “Have you heard? Lugal-Ane’s supporters have become more vocal in their opposition to Enheduanna’s writings. They believe she’s undermining the traditional pantheon with her syncretic approach.”

How would you like to respond?

[07:30 AM, Temple of Nanna, Ur | Nisaba of Ur, 28 || Clay tablet, stylus, small bronze knife, linen bag with barley bread and dried dates | Turn 1 of 10]

[please give me a little more on Nisaba’s background.]

Nisaba’s Background:

Nisaba of Ur hails from a lineage of agriculturalists, her name inspired by the Sumerian goddess of writing and grains. Born into a modest farming family in the outskirts of Ur, she was recognized early on for her sharp intellect and curiosity. Unlike most girls of her age and class, she was given a rare opportunity to learn reading and writing when a temple scribe, visiting their farm, noticed her poten-

tial. She was brought into the temple's educational system and soon climbed the ranks to become a recognized scribe in her own right.

Her daily life, while focused on her duties at the temple, still echoes her agrarian roots. She often spends her free time with her family, helping them with the harvest or trade. This blend of agricultural life and temple education gives her a unique perspective on both the layman's struggles and the theological debates of her era. Her dual life makes her a bridge between the commoners and the elite.

Nisaba has also developed a close working relationship with Enheduanna, often acting as a confidant and advisor. While she respects the high priestess immensely, Nisaba's loyalties lie with her people and the city of Ur, placing her often in situations where she must navigate delicate political waters.

[07:30 AM, Temple of Nanna, Ur | Nisaba of Ur, 28 || Clay tablet, stylus, small bronze knife, linen bag with barley bread and dried dates | Turn 1 of 10]

stall for time before answering Kurgal and listen to the whispers and conversations near by, then give an evasive answer and ask him where Enheduanna is

Nisaba nods in acknowledgment to Kurgal but doesn't immediately respond. Instead, she subtly leans in closer to a group of younger acolytes, feigning interest in adjusting her stylus and tablet. Their voices, filled with both anxiety and excitement, are a soft murmur against the temple's hushed ambiance.

"...not just a theological dispute. It's political now," a tall, lanky acolyte whispers. Another, a woman with a veil over her hair, replies, "Lugal-Ane's grip is strengthening. There are whispers he might challenge the current order, and not just in the realm of faith."

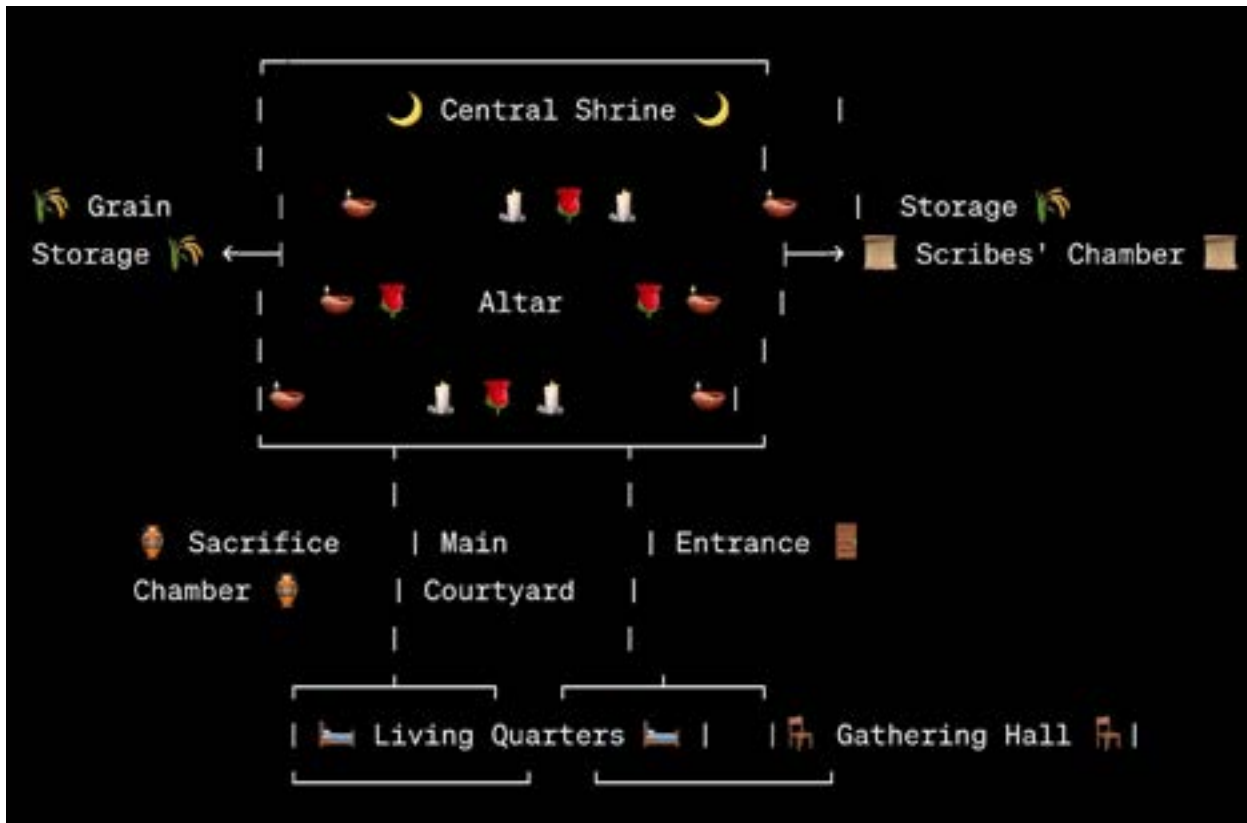
One particularly nervous-looking scribe chimes in, "And have you heard about the exile? Some say Enheduanna herself..."

His sentence trails off as they notice Nisaba's proximity. She straightens up and turns back to Kurgal, her expression carefully neutral. "The winds of change are always blowing, Kurgal," she says evasively. "I trust in the wisdom of our high priestess. Speaking of whom, do you know where Enheduanna is right now?"

[07:45 AM, Temple of Nanna, Ur | Nisaba of Ur, 28 || Clay tablet, stylus, small bronze knife, linen bag with barley bread and dried dates | Turn 2 of 10]

/map of temple, detailed, with emoji and labels

Here's a schematic representation of the Temple of Nanna in Ur, constructed using a combination of emoji, ASCII, and labels:



Key:

- ☾ Central Shrine: The holiest part of the temple, dedicated to Nanna, the moon god.
- 🕯 Oil Lamps: Placed throughout the temple to illuminate and create a sacred atmosphere.
- 🕯 Candles: Often lit during rituals and ceremonies.
- 🌸 Offerings: Fresh flowers and other offerings placed in front of the altar and around the shrine.
- 🌾 Grain Storage: Areas where grains and other agricultural products are stored as offerings.
- 📖 Scribes' Chamber: Where scribes like Nisaba work and maintain records.
- 🍷 Sacrifice Chamber: Where offerings and sacrifices are prepared.
- 🚪 Entrance: Main entrance to the temple.
- 🏠 Living Quarters: Where the temple's priests and priestesses reside.
- 🏛 Gathering Hall: A larger area for communal gatherings, teachings, and ceremonies.

The Temple of Nanna is intricately designed, reflecting its importance in the city of Ur. The main courtyard acts as a nexus, leading to various parts of the temple, with the Central Shrine as its spiritual heart.

[08:00 AM, Temple of Nanna, Ur | Nisaba of Ur, 28 || Clay tablet, stylus, small bronze knife, linen bag with barley bread and dried dates | Turn 3 of 10]

go to the scribe's chamber and begin my day's work, but with the covert motive of learning more about who Lugal-Ane is and what they want, and trying to determine who among the scribes supports them.

Nisaba glides effortlessly towards the Scribes' Chamber, her every step measured and silent. The chamber, a quiet sanctuary, houses a collection of shelves brimming with clay tablets, some still wet with fresh cuneiform imprints. A few fellow scribes work intently, their focus evident from the rhythmic pressing of their styluses.

Picking a spot near the far end of the chamber, Nisaba sets up her workspace. On the surface, she begins to transcribe records of the latest grain deliveries and temple donations, but her ears remain alert, sifting through the low hum of conversations around her.

As the morning progresses, snippets of guarded conversations catch her attention.

"...Lugal-Ane's supporters are growing in number," one scribe mutters to another, their voice barely more than a whisper.

"I've heard he's promised reforms and greater wealth to those who join him," another responds, glancing around cautiously before adding, "and some say he's even been in touch with the elders."

A younger scribe, her hands stained with fresh ink, leans over to a companion and says, "I think he might be right, you know? The temple's traditions have become so stagnant."

Listening keenly, Nisaba realizes that the sentiments regarding Lugal-Ane are divided. While some scribes seem enticed by the promises of change and prosperity he offers, others remain wary, loyal to Enheduanna and the temple's traditions.

Throughout her work, she makes careful mental notes of those who seem to lean more favorably towards Lugal-Ane's agenda. Their identities could be of significance later. The atmosphere in the chamber feels heavier than usual, the undercurrents of political tension palpable in every whispered conversation.

Nisaba finishes her official task by mid-morning but feels she's gleaned far more than just records of grain and silver.

[09:15 AM, Scribes' Chamber, Temple of Nanna, Ur | Nisaba of Ur, 28 || Clay tablet with grain records, stylus, small bronze knife, linen bag with barley bread and dried dates | Turn 4 of 10]

"Interior of the Scribes' Chamber in the Temple of Nanna, Ur. The room is dimly lit by flickering oil lamps. Wooden shelves holding clay tablets line the walls, and scribes are engrossed in their work, pressing styluses into fresh clay. In the midst of them, a female scribe named Nisaba is carefully eavesdropping, her face showing a blend of concentration and intrigue." [DALL-E had problems with this one, so I had to tweak it and try multiple times]

Interior of the Scribes' Chamber in the Temple of Nanna, Ur. The room is dimly lit by flickering oil lamps. Wooden shelves holding clay tablets line the walls, and scribes are engrossed in their work, pressing styluses into fresh clay. In the midst of them, a female scribe named Nisaba is carefully eavesdropping, her face showing a blend of concentration and intrigue.

Without being noticed, take a fresh tablet and begin making a table listing precisely who spoke in favor of Lugal-Ane among the scribes, along with everything I know about each of them. Write it in Akkadian, not Sumerian. [give me a transcript of the contents of this tablet] then hide the tablet in my robes and make an excuse for why I need to see Enheduanna immediately.

Nisaba selects a fresh clay tablet and begins to inscribe it with her stylus, writing in the cuneiform

script of the Akkadian language. Her hand moves with precision, ensuring each wedge and mark is clear. The table she compiles is as follows:

Table of Scribes Voicing Support for Lugal-Ane

1. 「 **Sîn-iddinam** 」

Role: Chief record keeper

Details: Older, grey-haired, has ties to influential families in the city. Known to be ambitious and discontent with the temple's current administration.

2. 「 **Ninurta-bani** 」

Role: Young scribe, specializes in hymn transcription

Details: Recent graduate from the scribal school. Eager for advancements, rumored to be easily swayed by promises of wealth.

3. 「 **Ninkasi-ili** 」

Role: Scribe, primarily handles economic records

Details: Comes from a family with trading connections. Has expressed frustrations with the temple's trade policies.

4. 「 **Utu-napistim** 」

Role: Junior scribe, handles lesser temple records

Details: Relative newcomer, origins uncertain. Seeks mentorship, possible ties to Lugal-Ane's faction.

Finishing the tablet, Nisaba carefully hides it within the folds of her robe, ensuring it's well-concealed. Standing up, she approaches the door of the chamber, signaling to a fellow scribe.

"I've just remembered a pressing matter," she says, her voice coated with urgency. "I must speak with Enheduanna immediately. Could you possibly continue with the transcription of the grain tallies for me?"

Without waiting for a reply, Nisaba hurries out of the chamber, seeking the high priestess.

[09:40 AM, Temple Corridors, Temple of Nanna, Ur | Nisaba of Ur, 28 || Hidden clay tablet, stylus, small bronze knife, linen bag with barley bread and dried dates | Turn 5 of 10]

find Enheduanna's chief servant and ask to be taken to her immediately

Making her way through the temple's ornate corridors, Nisaba spots Enheduanna's chief servant, Lugal-ili, overseeing the rearrangement of some ceremonial artifacts.

Approaching with a sense of urgency, she respectfully bows her head, "Lugal-ili, I need to speak with Enheduanna immediately. It's a matter of great importance."

Lugal-ili, always cautious, casts a sidelong glance at the hallway to ensure no prying ears are nearby. "Very well," he responds, lowering his voice, "I will take you to her. But remember, the temple is filled with whisperers these days. Speak carefully."

Leading the way, Lugal-ili navigates through a series of winding hallways, finally coming to the entrance of Enheduanna's private chambers. He signals for Nisaba to wait, slipping inside for a moment. A few heartbeats later, he reemerges, holding the door open.

“Enheduanna will see you now,” he whispers, ushering her inside.

Inside the room, the air is scented with frankincense, and the soft glow of oil lamps illuminates Enheduanna’s figure as she sits at a desk, surrounded by tablets and scrolls.

[09:50 AM, Enheduanna’s Private Chambers, Temple of Nanna, Ur | Nisaba of Ur, 28 || Hidden clay tablet, stylus, small bronze knife, linen bag with barley bread and dried dates | Turn 6 of 10]

Inside the private chambers of Enheduanna, an opulent room adorned with gold and lapis lazuli accents. Enheduanna, the high priestess, sits at a desk illuminated by the warm glow of oil lamps, surrounded by clay tablets and ancient scrolls. Nisaba, a concerned scribe, stands at the entrance, her silhouette defined against the corridor’s dim light, awaiting permission to approach.

“Here is a tablet showing the traitors among us, those who secretly support Lugal-Ane, your enemy and mine. Oh great mistress, servant of Nanna and Inanna, I implore you to act with the same wrathful vengeance that the gods bring down upon those who betray them. Let rivers of blood flow until this temple is cleansed.”

Enheduanna’s gaze sharpens as she locks eyes with Nisaba. The weight of the situation hangs heavy in the air, pressing down on the room like an unseen force. The priestess reaches out a delicate hand, beckoning for the tablet.

Carefully, Nisaba steps forward, placing the clay tablet into Enheduanna’s hands. As the high priestess scans the inscriptions, a myriad of emotions pass across her face—anger, sadness, and determination.

“You have done well, Nisaba,” she murmurs after a long moment. “This treachery runs deeper than I had feared. Lugal-Ane’s influence spreads like a shadow across our city.”

Nisaba, emboldened by the gravity of the situation, continues, “I will do whatever it takes to protect the sanctity of this temple and your rightful position, my lady. These traitors seek to undermine the divine order, and they must be dealt with.”

Enheduanna remains silent for a moment, then exhales deeply. “Your loyalty is commendable, Nisaba. Yet, rivers of blood may not be our best course. Lugal-Ane seeks to paint us as tyrants and oppressors. We must be cunning, strategic. We must outwit him at his own game and turn the people against him, not against us.”

Pausing, she carefully places the tablet on her desk. “For now, this information remains between us. I will summon my most trusted advisors to formulate a plan. Thank you, Nisaba. Your service may well have saved the temple.”