Intro to Computer Science

Blaheta

Research paper

v20240319-1220

One component of your grade for this course will be a research paper about the impact of computers on some specific thing that humans do. The paper will include descriptions of how that thing was done before computers, as well as how it's been done since computers have been around, and analyse the changes (or lack thereof), so your topic shouldn't be something that only exists in a computer context ("how we send email" wouldn't work, for instance)—you will have to explicitly frame your idea in terms of how we did things before computers.

There are a few intermediate deadlines listed in the syllabus, both to keep you from putting it off and to make sure your understanding of what's expected matches with mine. Submissions will be via the Canvas submission system, and are due at 11:59pm on the due date.

Paper topic and source list

The general topic of your paper needs to be some activity that predates digital computers in some form. It should be specific enough that its precomputer form can be sufficiently described in 2–3 pages and that they can be adequately compared with more modern versions of the activity in a 4–6 page paper. Topics like "communication" or "music" are *far* too vague to be valid for this purpose. As you think about possible topics, I encourage you to discuss them with me, in person or via email, so that I can help you refine your idea and come up with something that will work well within the constraints of the assignment.

The submission for this phase of the assignment should include **the topic itself** as well as a **list of sources** that you plan to use. You're expected to include descriptions of the pre-computer ways things worked, so make sure that some of your sources cover this. Your source list should *not* include Wikipedia or any other encyclopaedia, although you may use such resources to help you find actual sources. Your source list *may* include websites, but only if they are reliable; "some guy's blog" would not, in general, be a good source.

Each reference in your source list should be in a format suitable for use on a References or Works Cited page; whether you are using MLA or APA or some other form, each web source should include a URL. After each source, Research paper

you should **write a sentence or two** indicating (broadly) what you will learn from that source and why it is an acceptable, reliable source. While you will not be prohibited from finding additional sources later, there should be enough in this list to cover many aspects of your topic, both pre- and post-computer.

Submit your topic and source list on Canvas by Thursday, 1 February.

RUBRIC

- 5 Topic
 - **5** Workable and specific topic identified in full sentence(s)
 - **3** Topic might work but is vague or underspecified
 - **0** No topic
- **5** Sources
 - 5 "Enough" sources, formatted, each with good annotation
 - 3 Poor or insufficient sources, or no annotation
 - **1** At least two sources but no formatting or annotation
 - 0 One or zero source listed

Paper 1: Before computers

See below for statement on AI

To make sure you are on track for the final paper, I want you to submit a first paper, of 2–3 pages (about 600–800 words) plus bibliography, that explains your topic and describes how that particular human task was accomplished before digital computers were around to help. Aside from confirming that your topic works, this lets me double-check that you are writing in a suitable style—relatively formal academic prose—and using and citing sources appropriately. Make sure that you are doing that!

This paper should not discuss computers at all except perhaps to briefly indicate that it is describing a time before computers were used at this particular task. On the other hand, don't spend so much time on "ancient" history (before 1900 or so) that it will make it difficult to meaningfully compare with the computer era in the next paper. It should be able to stand on its own—don't abruptly end without a conclusion, for instance but the bulk of this paper should be able to be reused in the next one.

Submit your first paper on Canvas by Tuesday, 27 February.

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Paper 2: Impact of computers

The final version of the term paper will be an argument paper with a thesis of the general form "The way that humans ______ was/was not fundamentally changed by the introduction of computers." For most topics, I suspect that the "was" option, claiming that computers *did* fundamentally change how something was done, will be easier to argue, but the "was not" option will probably make a more interesting paper, if you can support the claim. (You don't have to phrase your thesis statement exactly like that, but the general meaning should be the same.)

This paper should be 4–6 pages in length not counting the bibliography (1200–1700 words). As noted above, the first submitted paper should already have covered the groundwork of explaining the task or topic and describing how it was done before digital computers, and this will form the core of the final paper (although you can, of course, edit it based on my feedback). The added material will include descriptions of how computers have affected the task and will make the case for the new way being either a fundamental change or only an incremental improvement.

Submit your final paper on Canvas by Thursday, 11 April. (This is a week later than the syllabus originally said!)

AI policy

As I've said before, generative AI is a tool and we all need to learn to use it effectively. It is not forbidden on this assignment BUT you need to follow these rules:

- First of all, you don't have to. If you don't use ChatGPT or anything like that, you can ignore the rest of these instructions.
- When you consult the AI, you SHOULD remain aware that it's not omniscient. It's pretty good at making some things *look* good, but remember that it might still be wrong! It's especially bad at finding articles and citing them for what's actually in them, for instance.
- If you use AI, you should save a copy of the interaction (i.e. both your prompts and its responses, unedited) in full in a separate document, which you submit alongside your main paper, for each submission.

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(Canvas lets you submit multiple files, just highlight them both when you're doing the submission.)

- If you use AI, you MUST write "Assist: ChatGPT" (or Bing, or Bard, or whatever AI you used) clearly under your name on the first page.
- AI-editing: One possible way to use AI is to write the essay yourself the traditional way, then paste it into a generative AI system and ask it to edit the essay. (Example prompt: "I would like you to edit an essay I've written. Please edit to improve spelling, grammar, sentence structure, coherence, and flow. This is the current draft of the essay:" and then paste in the text of your current draft.) You can then choose to accept or reject any of the AI's edits or edit it further yourself. This still counts as AI assistance, so follow all the above rules.
- AI-drafting: Another is to type out the pieces you want to be sure to cover (thesis you've chosen, facts or analysis you've worked out, specific quotes and citations you want to work in, etc), and then precede it with a prompt for the AI to incorporate them. (Example prompt: "I would like you to draft an essay of 1000-1500 words, including the following elements but reworking them to be a coherent essay with an explicit conclusion and good flow. These are the elements to include:" followed by all the pieces you put together.) Then paste that whole thing into the AI and grab the essay it gives you. This route is a bit riskier, because AI tends to make up stuff and if you don't check its work *very* carefully you might end up with stuff that will lose you credit.
 - A slightly less risky subtype of this is to write the main body of the essay and then ask AI to draft your introduction and conclusion. These uses don't require the AI to produce any *new* information, so it really is just acting as a tool for you! It's still considered AI assistance, so follow all the above rules.

Formatting

The usual typographical instructions apply: use a 12 point font in Times or a similar serif typeface; set the page with one-inch margins and the lines to be double-spaced.

For the first assignment (source list), the bibliographical items will each be followed by annotations, but the other two submissions can omit the

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annotations. In all submissions, web sources should include the URL of the source.

Citations and sources should follow a standard format such as MLA or APA, but you can choose which one you use.

I don't need a separate cover sheet.