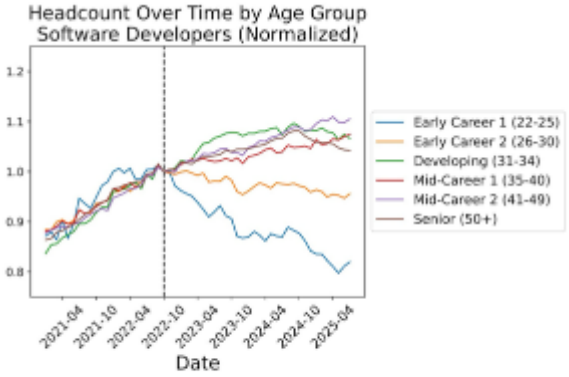
Notes: Collaborative Writing and Coding with OpenAI Canvas

- The course is focused on using ChatGPT 4o with canvas - which as of September 7, 2025 is no longer available with the recent updates to ChatGPT.
- Some features still work - for instance using visual reasoning from an image and asking it to write a summary or a longer report. (Refer example below)

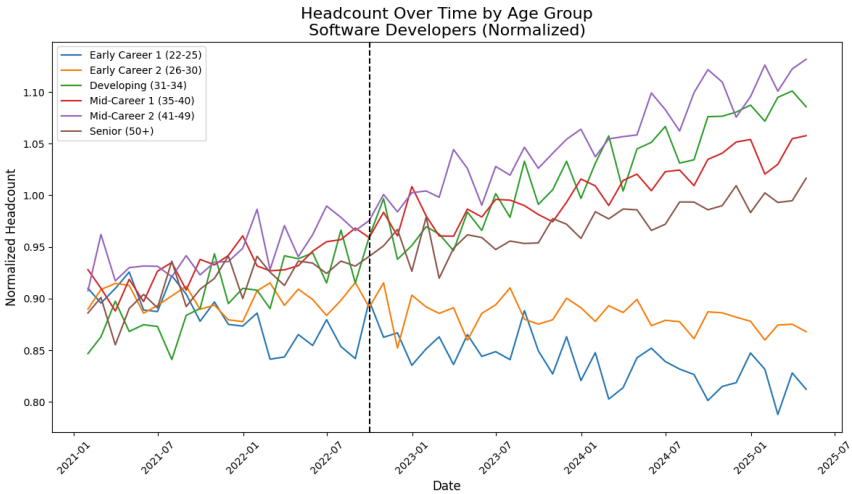


Write a report explaining this chart

Conclusion

This chart highlights a clear **post-2022 restructuring of the software development workforce**. While early-career developers face headwinds in hiring and retention, mid-career professionals enjoy sustained growth. Organizations may need to reconsider long-term workforce strategies to ensure that reduced entry-level hiring today does not lead to shortages of experienced developers tomorrow.

- Others are not as great. For instance, asking GPT to generate a Matplotlib graph in python using the image was not accurate.

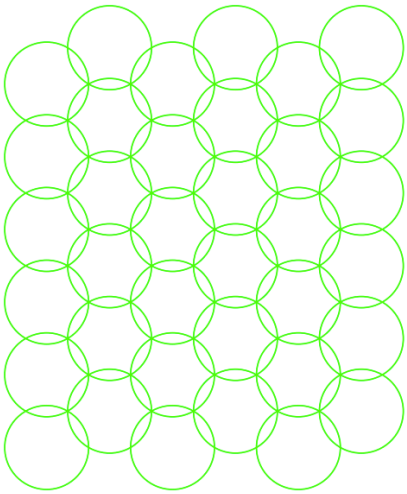


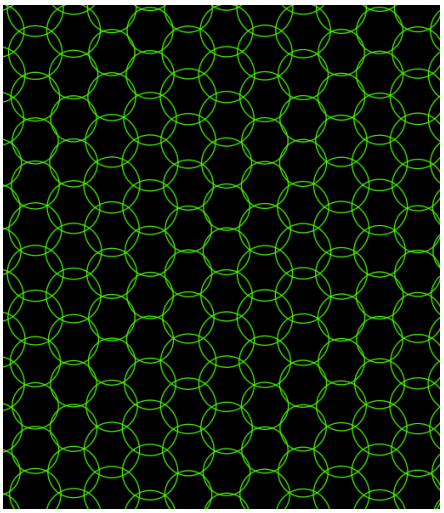
- Conversion from text to markdown worked efficiently.

Technique / Tool	Description
Impasto	Thick, textured application of paint that creates sculptural, tactile surfaces. Light interacts with ridges to add depth and intensity.
Directional & Rhythmic Strokes	Brushstrokes follow natural forms, swirling and flowing to create rhythm and movement across the canvas.
Contour Outlining	Inspired by Japanese prints; forms are reinforced with strong outlines in deep hues, adding clarity and structure.
Pointillist / Broken Brushwork	Small, fragmented dabs of color inspired by Neo-Impressionism; creates vibrancy and shimmering effects.
Variation in Paint Thickness	Juxtaposition of heavy impasto with thin washes or bare canvas; creates contrast, depth, and dynamism.
Hog Bristle Brushes	Strong, stiff brushes allowed heavy oil paint handling, carving bold textures and vigorous strokes.
Underpainting / Tinted Grounds	Canvases prepared with tonal washes (ochre, gray, blue) to establish mood and unify compositions.
Emotional Expressiveness	Brushstrokes embody psychological states—turmoil, hope, or joy—acting as visual language for emotion.

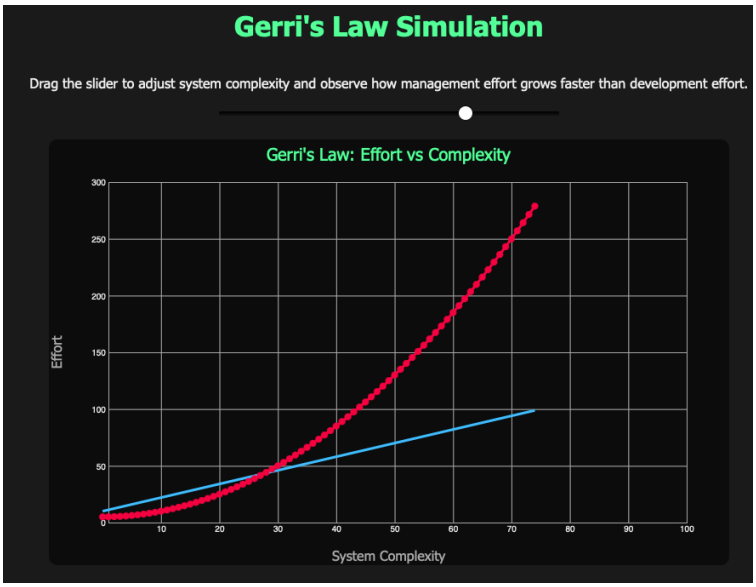
- Creating an interactive sine wave animated function did not work with ChatGPT (at this point also maxed out on free usage for 2 hours). Claude also was not successful.

- Some stuff it did super well. Like creating a static version of a matrix of the flower of life in python - then converting it into javascript - and exporting as a self containerised html file.

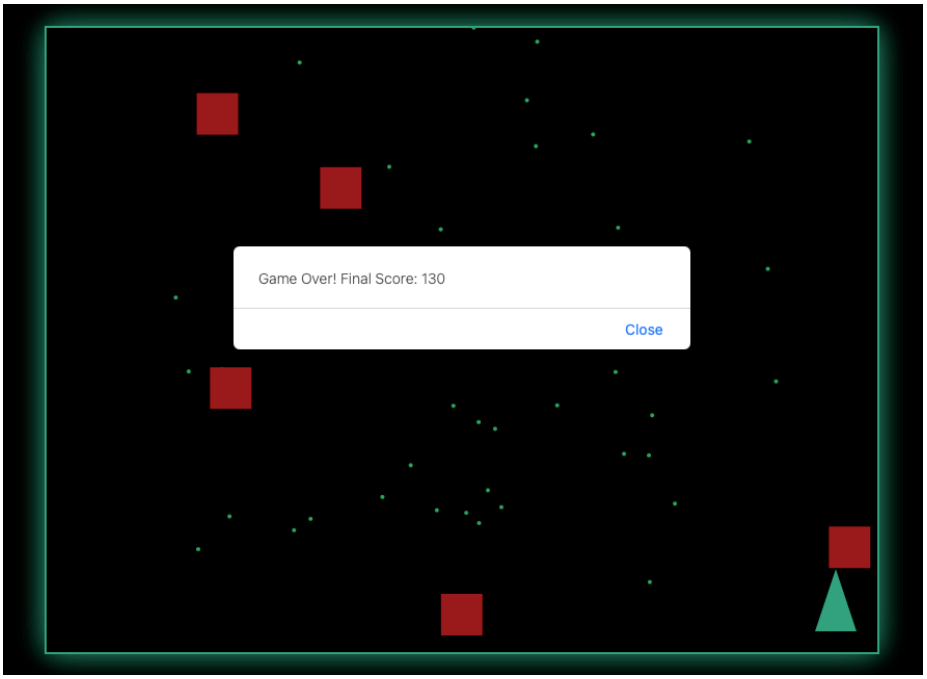




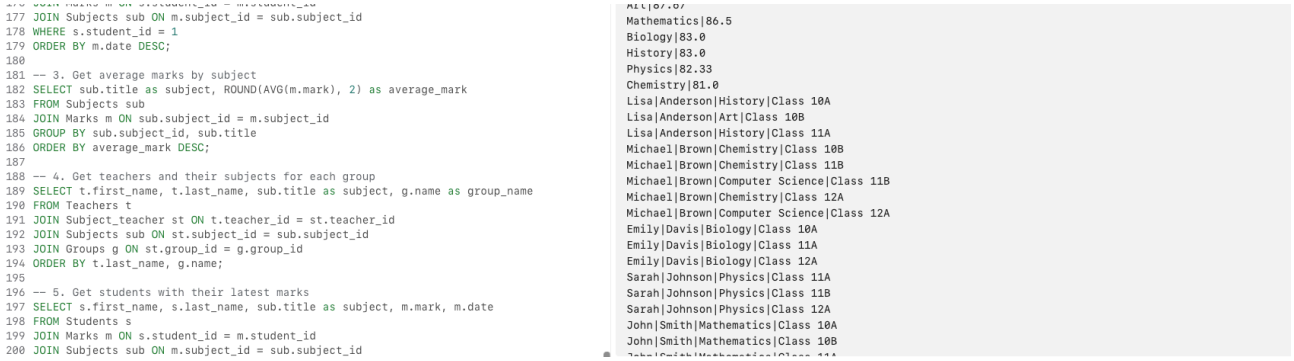
- Some interactive simulations worked. Obviously not production ready but good enough for early pilots. Interactive d3,js visualisation of Gerri's Law in a self contained html file.



- HTML outputs are way better than those in python. Probably, since the training data for HTML and CS5 is a lot easily available as compared to proper python code.



- Worked to generate a SQL database from an image.



```
JOIN Subjects sub ON m.subject_id = sub.subject_id
WHERE s.student_id = 1
ORDER BY m.date DESC;

-- 3. Get average marks by subject
SELECT sub.title as subject, ROUND(AVG(m.mark), 2) as average_mark
FROM Subjects sub
JOIN Marks m ON sub.subject_id = m.subject_id
GROUP BY sub.subject_id, sub.title
ORDER BY average_mark DESC;

-- 4. Get teachers and their subjects for each group
SELECT t.first_name, t.last_name, sub.title as subject, g.name as group_name
FROM Teachers t
JOIN Subject_teacher st ON t.teacher_id = st.teacher_id
JOIN Subjects sub ON st.subject_id = sub.subject_id
JOIN Groups g ON st.group_id = g.group_id
ORDER BY t.last_name, g.name;

-- 5. Get students with their latest marks
SELECT s.first_name, s.last_name, sub.title as subject, m.mark, m.date
FROM Students s
JOIN Marks m ON s.student_id = m.student_id
JOIN Subjects sub ON m.subject_id = sub.subject_id
```

```
Mathematics|86.5
Biology|83.0
History|83.0
Physics|82.33
Chemistry|81.0
Lisa|Anderson|History|Class 10A
Lisa|Anderson|Art|Class 10B
Lisa|Anderson|History|Class 11A
Michael|Brown|Chemistry|Class 10B
Michael|Brown|Chemistry|Class 11B
Michael|Brown|Computer Science|Class 11B
Michael|Brown|Chemistry|Class 12A
Michael|Brown|Computer Science|Class 12A
Emily|Davis|Biology|Class 10A
Emily|Davis|Biology|Class 11A
Emily|Davis|Biology|Class 12A
Sarah|Johnson|Physics|Class 11A
Sarah|Johnson|Physics|Class 11B
Sarah|Johnson|Physics|Class 12A
John|Smith|Mathematics|Class 10A
John|Smith|Mathematics|Class 10B
```

- The model is trained using synthetic data - but largely not useful anymore since the current model (free version) doesn’t have the ability to use this model.
- Fixing model behaviour - check for reproduction of results, dissect the problems in the output into smaller pieces and ask model to solve the problem holistically.