Karen Shay West

9 Shannon Marie Way, North Easton, MA 02356

508-844-9776   http://www.linkedin.com/in/karenshaywest   KarenWest15@gmail.com

SUMMARY OF RECENT ONLINE TECHNICAL COURSE on the hardware and computing technology design of a smart phone using the Jade design tools that run in a browser – see my Linked In Project Section for details and github links to files:

- This course **explored the different layers of computing technology within your smartphone.**
- We began at the **hardware level, covering digital logic beginning with transistors and moving up to finite state machines**.
- In the second part of the course, we built on this material and **discussed how computers are organized and designed, including how the hardware and software interact.**
- Finally, we learned the **basics of programming.**
- These three parts give a broad coverage of the technology that enables your smartphone to operate.
- Then, we moved beyond operation into performance, exploring **advanced methods to speed up computers, including pipelining, multi-threading, and multi-core processors.**
- Finally, the course closed with an **overview of actual processors used in smartphones.**
- Assignments throughout the course were tailored to build your understanding and solve problems.
- Hands on work was done using the **Jade simulation tool that runs in your browser to design a small working computer that functions using the same basic computing principles as your smartphone.**
- Part of this course was a review for me, having done similar things to design CPUs in graduate school in the 1990's with the Mentor Graphics tools, and part of it was new, and applied to smart phones.
- **By the end of the course, we were able to:**
  - **Describe how a smartphone processor works.**
  - **Explain computer system design from binary information to programming.**
  - **Design a small working computer.**
  - **Describe common techniques used to make computers fast.**