DUE NOVEMBER 3rd

RESEARCH PAPER ON: **Trends in Embedded Systems**

Your research should include speculation on where the state-of-the-art will be in the near future for one of the following technologies. Your paper could include a description of the state-of-the-art in your technology, a discussion of where the sources that you read believe the technology is heading in the near future, and a discussion of how this technology will affect the choices you would make if you were making purchase recommendations for a client. Although there is room for personal opinion in your paper, you must justify your conclusions.

**Details on the Individual Research Paper:**

**1.** Length and Style: The body of an analytic research paper should be at least 10 pages in length (but not more than 12 pages) and typed using the APA Guide. Student projects distill fundamental issues, discuss the various available solutions, discuss the benefits and limitations of the available solutions, and provide a new solution and justification. Student papers must state a **thesis**, and based on the research, attempt to **prove or disprove that thesis**. An adequate literature search will include a few books and journal articles (or other relevant documents). A search of Internet documentation is required. Students should develop a conclusion which synthesizes the literature in such a way as to demonstrate new knowledge.

Guidelines for the format of the paper are as follows:

* The paper should be 10-12 pages of text in length. (This minimum and maximum length should not include the title page, separate figures and tables, or the list of references);
* The paper should include a **one paragraph abstract, an introduction, and a conclusion** - think as if you were writing for a professional journal;
* The paper should use the APA format.

The different types of research can be classified as ***Theoretical***, ***Empirical***, and ***Evaluation***. Theoretical research is focused on explaining phenomena through the logical analysis and synthesis of theories, principles, and the results of other forms of research such as empirical studies. Empirical research is focused on testing conclusions related to theories. Evaluation research is focused on a particular program, product or method, usually in an applied setting, for the purpose of describing, improving, or estimating its effectiveness and worth.

Research methods are broadly classified as ***Quantitative*** and ***Qualitative***.

* Quantitative research includes experimental, quasi-experimental, correlational, and other methods that primarily involve collection of quantitative data and its analysis using inferential statistics such as t-tests, ANOVA, correlation, and regression analysis.
* Qualitative research includes observation, case studies, diaries, interviews, and other methods that primarily involve the collection of qualitative data and its analysis using grounded theory and ethnographic approaches. The Case Study method provides a way of studying human events and actions in their natural surroundings. It captures people and events as they appear in their daily circumstance. It can offer a researcher empirical and theoretical gains in understanding phenomena.

You, as an adult learner, bring a wealth of expertise to your studies. This knowledge and skills should be used to formulate a research paper that raises new questions, new possibilities, and regards existing problems from a new angle. Effective research compares, contrasts, analyzes, evaluates, synthesizes, and integrates information rather than simply reports it. It should contains references to and examples of various theorists, theories, ideas, philosophies, being compared and contrasted as well as synthesized and integrated within your work. The research paper must demonstrate scholarly treatment of the material that the student has selected for further study. It goes without saying that the research paper must be free of spelling and grammatical errors. References must be cited correctly using APA style.

Research studies must include **Breadth** and ***Depth*** components. In the Breadth component, you should demonstrate familiarity with broad theoretical and conceptual topic area and provide an overview of major theories, theorists, and schools of thought. The Depth section should promote understanding of latest research and build on theory presented in the Breadth section; it should be designed to foster greater depth, development and detail in examination of one or more aspects that has already been introduced.

**Checklist**

While developing the Research Paper, the following questions should be used as a checklist:

* Does the research deal with significant and meaningful problem that lends itself to a substantial research effort?
* Is there a justification that demonstrates why the problem is worth studying?
* Is it clear who or what will be aided by research findings?
* Will the findings provide a basis for generalized conclusions or have practical applicability?
* Is the purpose of the research expressed clearly?
* Is the research question or hypotheses stated concisely and explicitly? Does it logically flow from the problem?
* Are limitations of the study identified with recognition of their consequences?
* Are technical terms well defined? Are definitions clear and unambiguous?
* Is the theoretical framework related to previous research? Is previous work on the topic critically appraised?
* Is the research informed by primary sources of theories, concepts, principles and models in the field, and are they referred to specifically?
* Are methods of data collection appropriately explained?
* Is data analysis complete and presented logically?
* Are conclusions and recommendations useful and tied to findings?