TEACHING TOP-DOWN APPROACHES TO THE ENGINEERING DESIGN PROCESS

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OBJECTIVES

Apply System Architecture Methodology to field of education.
Apply System Architecture Methodology to manufacturing of CCRS (Capture Containment Return System).
Apply educational and cognitive psychologies to System Architecture Methodology.

SYSTEM ARCHITECTURE METHODOLOGY

DISCUSSION

This research was conducted over summer 2018 and continued over the summer of 2019 at the Jet Propulsion Laboratory, California Institute of Technology. The goal of the project was to apply the System Architecture Methodology to the engineering and education fields. During the summer of 2019, we ran weekly workshops for a select group of interns. Each week, we taught steps in the methodology, growing the interns’ knowledge from the application to their projects. From these lessons, we hoped the interns advanced their creativity and comprehension of the design process. Bloom's Revised Taxonomy is utilized within all standards, objectives, and assessments in the curriculum.

RESULTS

APPLICATIONS

State-of-the-Art

H.S. ENGINEERING DESIGN

State-of-Technology

REFERENCES

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