

A Gentle Introduction to Fuzzy Logic in CS I Course: Using PLTL as a Vehicle to Obliquely Introduce the Concept of Fuzzy Logic

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From time to time, students that register for the fundamentals of computer programming I course (CS I) manifest misconceptions about what computer science/programming is. Even for students that claim to own a slight idea of computer programming, hardly find the main motivation behind the course.

Efforts to disseminate the notion of CS and programming have been established for the past years in El Paso Community College (EPCC). These efforts include: highly energetic activities of the Computer Science and Info. Technology Club, symposiums in computing, and peer-oriented tutoring, also known as the Peer-led Team learning (PLTL). The latter model has been adopted in EPCC for the past three years and it has been accepted for the student community successfully. One of the weekly activities that peer-led mentors perform are the hands-on demonstration. Peer mentors use a variety of original activities to demonstrate the lecture concepts with emphasis to the topics that are most frequently challenging to comprehend. Although Graphical User Interfaces (GUIs) are not considered to be a critical concept CS I, the peer led sessions seem to be the ideal environment to demonstrate the usage of GUIs. A concept that is frequently challenging to comprehend in CS I is *decision structures*, and in this presentation we provide two activities that the Peer mentors developed that use GUI to demonstrate decision structures.

Additionally, the peer-mentors demonstrate the concept of *fuzzy logic* in these sessions. Although the concept of fuzzy logic is not considered to be part of the learning outcome of the course, we believe that the concept brings an enormous impact in the education in computer science. We use selected peer-led team learning sessions as a vehicle to disseminate the concept of fuzzy values and GUIs while introducing the concept of decision structures. After students being exposed to these sessions, are able to:

- find an application where to apply the concepts of conditional statements,
- extract computational thinking from visual interface into code,
- identify concepts in CS I needed to interact with the computer user, and
- learn the notion of fuzzy values indirectly.