**Title:** Developing Narratives on Students' Program Planning

**Abstract:**

Students in first-year computing courses deal with programming problems that have multiple viable solutions that organize the underlying problem’s tasks in fundamentally different ways. Selecting among these organizations of code or program plans and implementing them depends on various factors such as prior knowledge of solutions and features of programming languages used. We explore how students plan programs and the factors that influence their decisions by conducting a series of interviews and think aloud sessions with students through their first two CS courses and following their progress throughout these courses. The students’ verbal protocols, alongside artifacts such as their code output and hand traces, are analyzed using grounded theory methods to develop qualitative narratives about how students progress in programming and planning across the two courses.