COMPUTER SCIENCE AND ENGINEERING SENIOR DESIGN CAPSTONE PROGRAM

University of Nebraska Lincoln

Senior Design Course Objectives

Provides students a design-centered educational experience focused on the application of software and hardware engineering principles to solving complex problems through the delivery of innovative, real-world IT system solutions.

Benefits

Senior Design projects and their industry partners help prepare UNL students to excel in their post-graduate careers.

Senior Design Goal

Experience delivering software systems by applying a cross-section of engineering best practices including:

- Application of engineering principles
- Iterative software development methodologies
- Development operations
- Software quality assurance
- Software architecture and design
- Dependability engineering
- Requirements analysis
- Relational data modeling
- Project management
- Team organization and leadership
- Client relationship management

Benefits

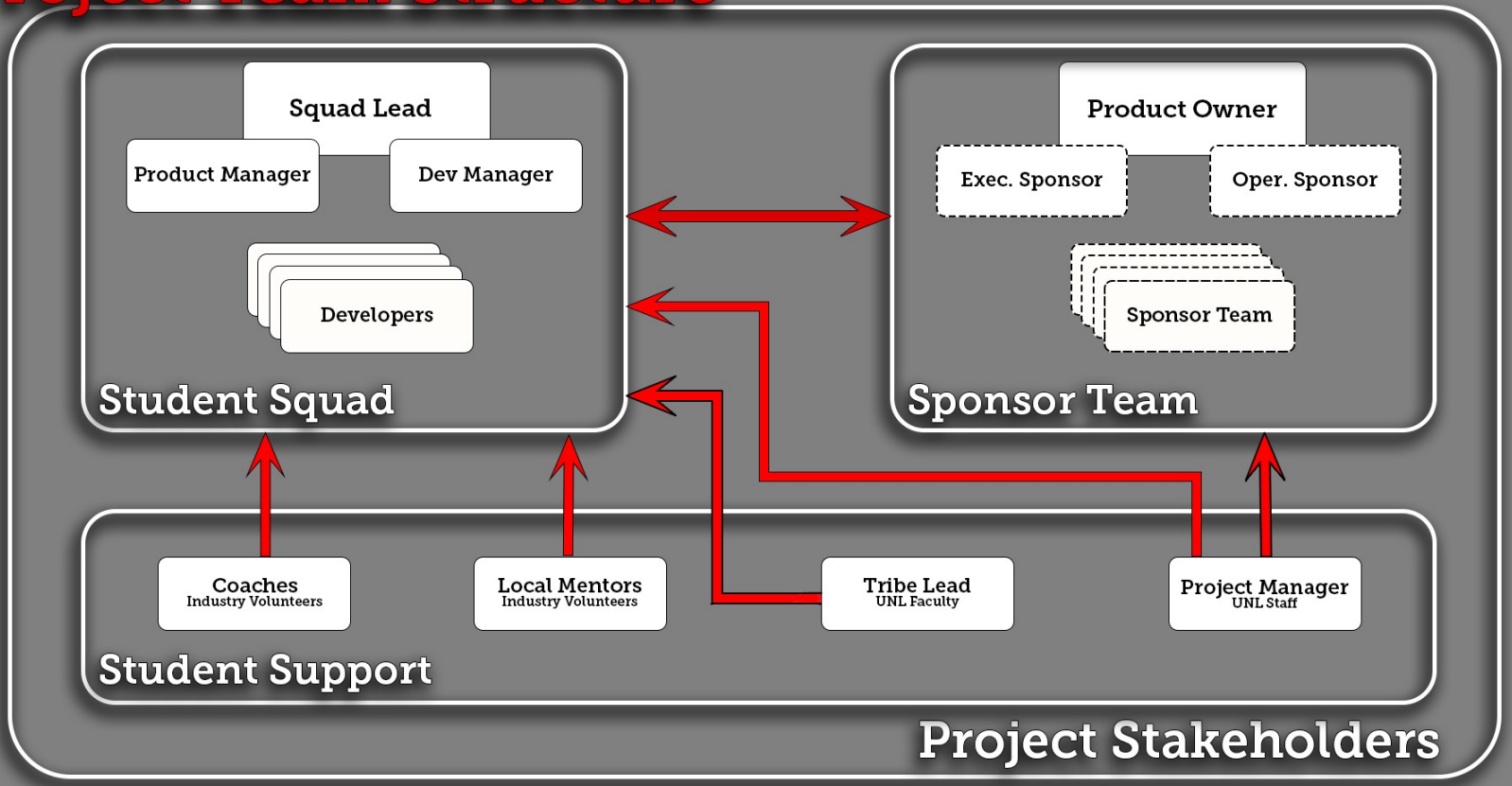
With the strong partnership between your organization and UNL, we hope to foster a great collaboration that strengthens the community and supports the transformation of technology into industry-leading innovation.

Senior Design Sponsors Receive

Over the course of two semesters, a sponsor will have a dedicated team:

- Consisting of 5-6 students
- That work a total of 1,200 - 1,500 hours
- 100% intellectual property ownership

UNL Senior Design
Project Team Structure



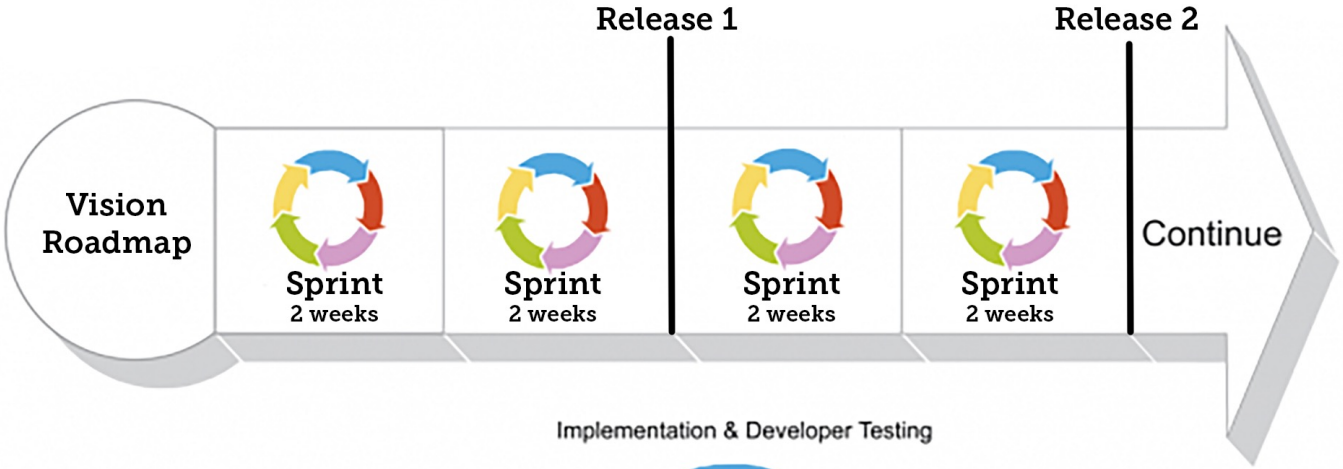
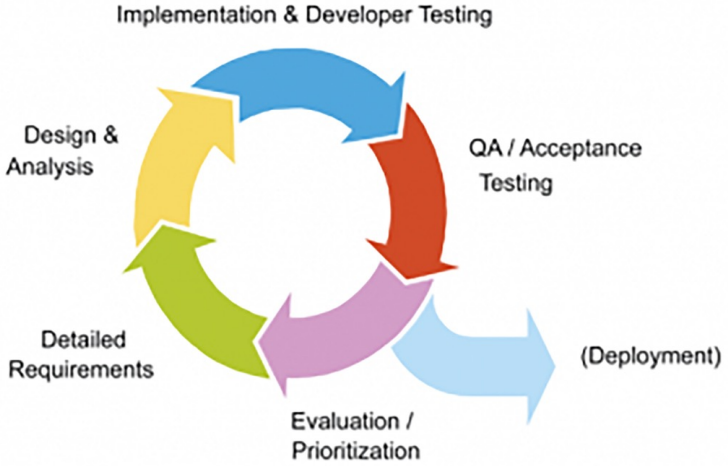
High-Level Squad Expectations

- A squad is a cross-functional, self-contained development unit in the larger Senior Design organization.
- A squad is responsible for the execution of a development project sponsored by a Senior Design industry or research partner.
- A squad has complete authority, within the defined process, to make decisions in the execution of the project:
  - This authority is exercised in conjunction with the sponsor and under the direction of Senior Design faculty.
- A squad develops a software product based on the needs of the sponsor:
  - The squad must become an “expert” and develop a strong understanding of the problem space in order to develop a desirable solution.

High-Level Sponsor Expectations

- The sponsor team is available and collaborates with the Senior Design squad.
- The sponsor team participates on the project, at minimum every checkpoint/release.
- The sponsor can and does prioritize work across all aspects of the project including documentation, requirements, design, coding, and testing.
- The sponsor is adaptable.
- The sponsor provides feedback on the solution, process, and squad activities.
- The sponsor validates the solution on a regular basis.

UNL Senior Design – Agile Process



Iteration Detail