

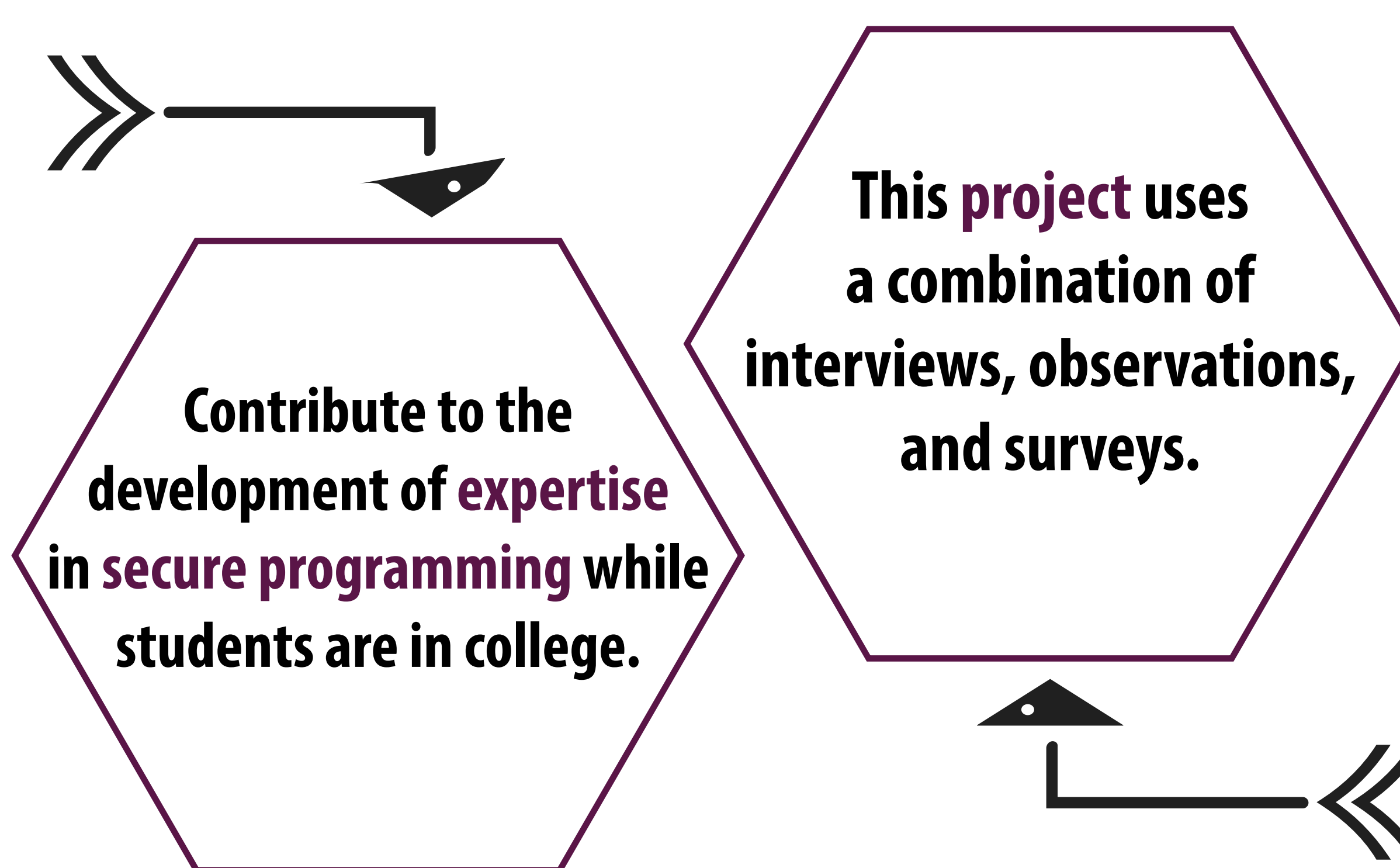
Secure Programming Clinic

Problem:

Current state of security software is poor due to lack of expertise in secure programming.



G
O
A
L



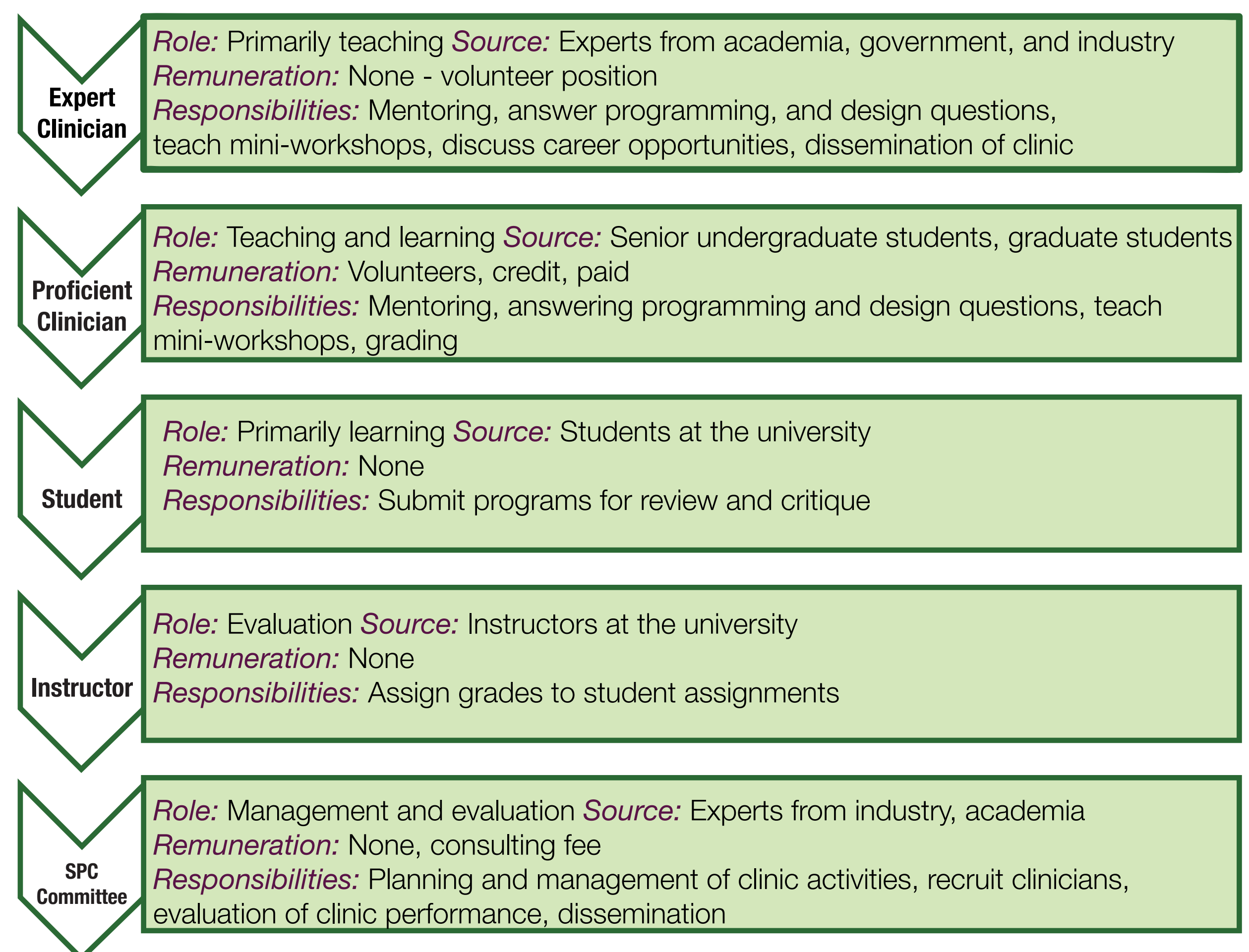
M
E
T
H
O
D

★ This project will investigate:



- ★ How a diversity of experiences and contexts to help the learners abstract their developing knowledge across contexts
- ★ The efficacy of concept maps to help students understand the connections amongst concepts, and to measure the development of their emerging mental models
- ★ The relationship between the number of learning experiences needed and the development of expertise
- ★ How whole-part strategies to help learners practice and master fluent integration of complex knowledge and skills as developing experts
- ★ Methods for connecting students to each other and to a range of subject matter experts (SMEs) in the field of secure programming into a community of practice affects the development of expertise



SPC Structure:



Team:

 Dr. Melissa Dark - Purdue, Dr. Matt Bishop - UC Davis, Dr. Ida Ngambeki - Purdue, Dr. Jun Dai - Cal State Sacramento,
 Dr. Phil Nico - Cal Poly San Luis Obispo, Steve Belcher - National Security Agency, Lauren Stuart - Purdue
Acknowledgements:
 Somdutta Bose, MingHua Zhu, NSF Award ID: DGE-1303048

Associated Publications:

Ngambeki, I., Dark, M., Bishop, M. & Belcher, S. (2015). Teach the Hands, Train the Mind. A Secure Programming Clinic. *Proceeding of the 19th Colloquium for Information System Security Education*, Las Vegas, NV.
 Dark, M., Belcher, S., Ngambeki, I. and Bishop, M. (2015). Practice, Practice, Practice....Secure Programmer. *Proceeding of the 19th Colloquium for Information System Security Education*, Las Vegas, NV.

