SE&T Colloquium Series-Fall 2015

Speaker	Mr. Ryan Moormann Senior Computer Science Major Advisor: Dr. Khandaker A. Rahman
Title	***Authenticating computer users by mouse activities***
Abstract	User authentication through computer activities such as typing, mouse events, application usage behavior is gaining momentum in recent days. Among these modalities, young but promising mouse dynamics remains as an active area of research. In this research, we are developing a user authentication system based on mouse dynamics. Using our developed mouse-logger program, we collected mouse events (2D position of cursor, mouse button up-down with associated timestamp) from 60 volunteers. Each volunteer was asked to perform their regular computer activities for one hour in two different machines on two different days allowing us to record 225,000 mouse events. After preprocessing (outlier filtering) the events, we defined six features: cursor speed, acceleration, jerking, single left-click interval, double left-click interval and time length of a mouse movement before pausing. Each user's training template containing feature values was compared against test samples (collected on second day) of all 60 users. Therefore, in total, we are experimenting with 60 genuine and 3540 impostor authentication attempts. In our experiments, we achieved an impressive low Equal Error Rate (EER) of 6.70%.
Date	Tuesday, December 1
Time	4:10-5:00pm
Place	Pioneer 240
	Refreshments will be served at 4:00pm.