

CSE 543 Information Assurance and Security

Course Project Guidelines Fall, 2014 (hybrid section)

Professor Stephen S. Yau

Sample Project Topics

- Security and privacy in IoT (Internet-of-Things) environments
 - a) Ambient intelligence for security and privacy in IoT
 - Autonomous control for security and privacy in IoT
- 2. Trust management and Sybil detection in social networks
- 3. Privacy in social networks
- 4. Situation awareness in cyber space for security
- 5. Trustworthy data sharing in collaborative computing environments
- 6. Human factors related to security

_

Sample Project Topics (cont.)

- 7. Security in software defined networks
 - a) Malicious behaviors analysis
 - b) Load balancing
- 8. Malware analysis for proactive detection and prevention
- 9. Cloud computing and service-based systems:
 - a) Vulnerability assessment and intrusion detection
 - Risk analysis and risk management
 - Information dispersal and data hiding for cloud
 - d) Confidentiality and integrity assurance
- 10. Network based solutions for MITM and DDoS attacks
 - a) Model based attack detection and prevention
 - b) Cryptographic solutions

Initial Course Project Proposal Due September 11, 2014

- 1. Project title [8 20 words]
- 2. List of group members
- 3. Objective [one sentence]
- 4. Motivation [no more than 50 words]
- 5. Scope of study [no more than 50 words]
- 6. Expected major results [in bullet form, about 100 words]
- 7. For group project, each group member's responsibility
- 8. A preliminary list of references [in standard format authors in the order of appearance, title of the paper or book, publication (title of the journal or conference proceedings or URL website), volume number and date, page numbers inclusive (for journals and conference proceedings)].

Interim Course Project Report Due October 16, 2014

Note: The content in this report must be consistent with your approved project proposal. If there is significant deviation, indicate that in the report and subject to approval.

- 1. Project title
- 2. List of group members
- 3. Introduction
 - Background and Motivation (no more than one page)
 - Your Goals and scope of study of this project (no more than one page)

4.Results

- The specific tasks you have completed
- The tasks you will work the next two weeks
- References each student has read
- References each student will read, but not yet
- 5. Detailed Timetable (with major milestones for individual tasks)
- 6. References (should be complete, references given in standard format)
- 7. No more than 15 pages for a group project, including figures and tables.

Final Course Project Report

- 1. **Deadline:** *November 13, 2014*
- 2. Report Format
 - **1.25** to 40 pages (including figures, tables and references)
 - 2. Font size and line spacing: 12 point and 1.5 lines spacing
 - 3. Page size: 8.5"X 11", one column.

3. Report Content

- 1. Cover page: title, group number, student names and summary (one page)
- 2.Introduction (one two pages)
 - 1. Motivation and background
 - 2. Goals and scope of study of this project
- 3. Overview (including each member's responsibilites) (one two pages)
- **4.Detailed Results** of all individual group member (2 5 pages for each member)*
- 5. Conclusions and Recommendations (usually no figures) (5 7 pages)*
- 6.References (2 5 pages) (each reference must be cited in text)

Additional Guidelines for Final Report

- Detailed survey results* (12 30 pages)
 - Highlights of each approach with reference citations
 - Approach (method or technique)
 - Coverage
 - Summary of experimental or real-world data and analysis
 - Strengths and weaknesses (summary from the references)
- Conclusions * (5 7 pages) (in your own words)
 - Comparison of strengths and weaknesses of all approaches
 - Recommendations, including future work



Additional Guidelines for Final Report

- Detailed research results* (12 30 pages)
 - Highlights of your approach with reference citations
 - Approach (method or technique)
 - Coverage
 - Summary of experimental or real-world data and analysis
 - Strengths and weaknesses (summary from the references)
- Conclusions * (5 7 pages) (in your own words)
 - Comparison of strengths and weaknesses of all approaches
 - Recommendations, including future work



Guidelines for Project Presentation

- Each student of a group must present one part
- Total presentation of a group project, including short Q/A for clarification *within 20 minutes*
- Discussions after presentation <u>within 5 minutes</u>
- Focus on
 - Overall project, and highlights of survey results or current state of the art to support you conclusion within 15 minutes
 - Conclusion <u>within 5 minutes</u>

Final Individual Course Project Report

- *In addition to group report, each student* must submit an *individual* project final report of no more than 10 pages (10 font, two column and single space), including figures.
- The individual project final report must include the following:
 - An *overview* of the project, including relevant references in specified format (*in each student's own words*, but the content must be consistent with the group reports of *all* the students in the same group)
 - *Contributions* made and lessons learned in the project by the student
- A satisfactory project, including the individual and group final reports, is required for passing the course.
- If a student passes the course and wants to include the project report in his/her MCS portfolio, *only the graded individual final report of the project* can be used in his/her MCS portfolio.