

Beginning of Course Memo
CS 493: Web Browser Architecture
Professor: David Evans; TA: Adrienne Felt

Purpose: The purpose of this course is to learn about browser architectures and flaws in modern browsers. The course is targeted for upper-level Computer Science majors with experience with group software development (e.g., CS340) and C.

Topics: The semester will be divided into two sections:

1. *Background.* (Jan to mid-Feb.) Introductory lectures on topics including on browsers architecture, Firefox extensions (XUL), and JavaScript. During this time, students will work on building a Firefox extension as a hands-on introduction to the material.
2. *Browser research.* (Mid-Feb to May.) Lectures will be given on flaws of modern browsers (e.g., adapting browsers for hand-held devices and defense against spoofing) and the process of open-source development. Students will present and discuss academic papers on browser problems and future avenues of browser design. During this time period, students will split into teams of 4 to work on team projects that contribute to Mozilla Firefox.

Lectures will be given by Adrienne Felt, students in the class, and guest lecturers.

Assignments:

- Firefox extension. Students will work individually to build a Firefox extension.
- Open source development project. Students will work in small teams to make a contribution to an open source web browser. Each team will have a team leader and a person in charge of communicating with the developer community. Teams will need to create a defined schedule and outline of goals, and will give three presentations to the class about the project progress (beginning, middle, and end of the project time frame).
- Academic paper presentations. Each students will present a paper on future browser advancement. (Depending on class size, this may be either individually or in pairs.) After the presentation, they will need to write a short summary of the paper topic and the ensuing class discussion.
- Academic paper responses. Each student will be responsible for answering two stock questions about each presentation in addition to two more in-depth questions.

Grading: The final course grade will be based on:

- presentation summaries,
- academic paper responses,
- documentation of the completion of a functioning Firefox extension, and
- the documentation and presentation of successful progress on the development project according to the group schedule, highlighting individual contributions.