

EECS 22L: Software Engineering Project in C Language

Lecture 4

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Lecture 4: Overview

- Course Administration
 - Week 4: Team presentations
 - Project status and discussion
 - Software specification for users and developers
 - Data structure design, implementation, status
- Graphical User Interface (GUI)
 - Introduction to GUI programming
 - Simple DirectMedia Layer (SDL)
 - Portable graphics library
 - SDL introduction
 - SDL example

Course Administration

- **Week 4: Team Presentations**
 - Contents
 - Title page (Team name, product, authors, ...)
 - Status of your software product, screenshot or demo
 - Main challenges encountered, lessons learned
 - Organization and setup
 - PowerPoint or PDF, and/or online demo of alpha version
 - By one or two selected team members
 - 8 minutes, plus 2 minutes Q&A, discussion
 - Schedule
 - 15 teams in Tuesday/Thursday lectures
 - 11 teams in Monday/Wednesday/Friday lectures
 - Volunteers first, then random order (determined ad-hoc)

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3

Course Administration

- **Week 4:
Team
Presentations**
 - Lecture
assignment
by majority
of enrollment

Team	Team name	Presentation
1	AlphaChess BetaGo Entertainment	Mo/We/Fr
2	Kingsmen	Mo/We/Fr
3	Vermilingua Chess	Mo/We/Fr
4	ZOTCOMM	Tue/Thu
5	Checkers	Tue/Thu
6	Piece Fire Turtles	Tue/Thu
7	Emily and Friends	Tue/Thu
8	Over Compens8	Tue/Thu
9	Pawn Shop	Tue/Thu
10	Show Me Your Chess	Mo/We/Fr
11	He11o Chess Inc.	Tue/Thu
12	FROPPY	Tue/Thu
13	Breakdown Tech	Mo/We/Fr
14	Team Bored Games	Mo/We/Fr
15	PAYSANS	Mo/We/Fr
16	IS_Valid_Move()	Tue/Thu
17	TeamXVII	Tue/Thu
18	Kill the King	Tue/Thu
19	Crystal Software	Tue/Thu
20	Chess Nuts	Tue/Thu
21	Anteater Chess	Mo/We/Fr
22	Bongcloud Players	Mo/We/Fr
23	PAN SAMURAI	Tue/Thu
24	BitBots of UCI	Tue/Thu
25	The Rookies	Mo/We/Fr
26	The Knights	Mo/We/Fr

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4

Graphical User Interface

- Introduction to Graphical User Interface (GUI) Programming
 - GUI infrastructure in operating system (OS)
 - A large variety of GUI libraries exist
 - Examples: X11, Windows, iOS, Android, ...
 - Main differences to text-based programming
 - Input through events
 - Generated by mouse, touch-screen, key-board, etc.
 - Output through 2D pixel interface
 - Rendering on screen
 - Event-based main control loop
 - Widgets, call-back handlers, ...

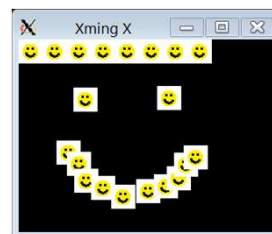
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5

Graphical User Interface

- GUI Example: Simple DirectMedia Layer (SDL)
 - Cross-platform portable graphics library
 - Aimed mainly at computer gaming
 - Access to graphics hardware, mouse, keyboard, audio, ...
 - Built on top of OpenGL or Direct3D
 - Freely available with good API documentation
 - <http://www.libsdl.org/>
 - *NOTE: EECS Linux servers provide SDL 1.2 (not SDL 2.0!)*
- SDL Program Example
 - Lecture demonstration
 - Opening a window
 - Displaying an image
 - Handling events
 - `~eecs22/SDL_Example.tar.gz`
 - Alternative: GTK (self-study)
 - `~eecs22/GTK_Example.tar.gz`



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6