Topic 1
Course Introduction

Chapman: I didn't expect a kind of Spanish Inquisition.
Cardinal Ximinez: NOBODY expects the Spanish Inquisition! Our chief weapon is surprise...surprise and fear...fear and surprise.... Our two weapons are fear and surprise...and ruthless efficiency.... Our **three** weapons are fear, surprise, and ruthless efficiency...and an almost fanatical devotion to the Pope.... Our **four**...no... **Amongst** our weapons.... Amongst our weaponry...are such diverse elements as fear, surprise....

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Who Am I?

- Lecturer in CS department since 2000
- Undergrad Stanford, MSCS RPI
- US Navy for 8 years, submarines
- 2 years Round Rock High School
- Wife (Kelly) is a nurse.
  - 2 daughters, Olivia and Isabelle

Rensselaer

What We Will Do Today

- Discuss course content and procedures

- What will we do in this course?
  - Learn how to solve problems and implement the solutions as computer programs in the Java programming language
  - Not so much about learning the language but how to solve problems
  - the language we use really is secondary
  - you won't always use Java in other courses
  - by learning one language also learn how to learn another programming language

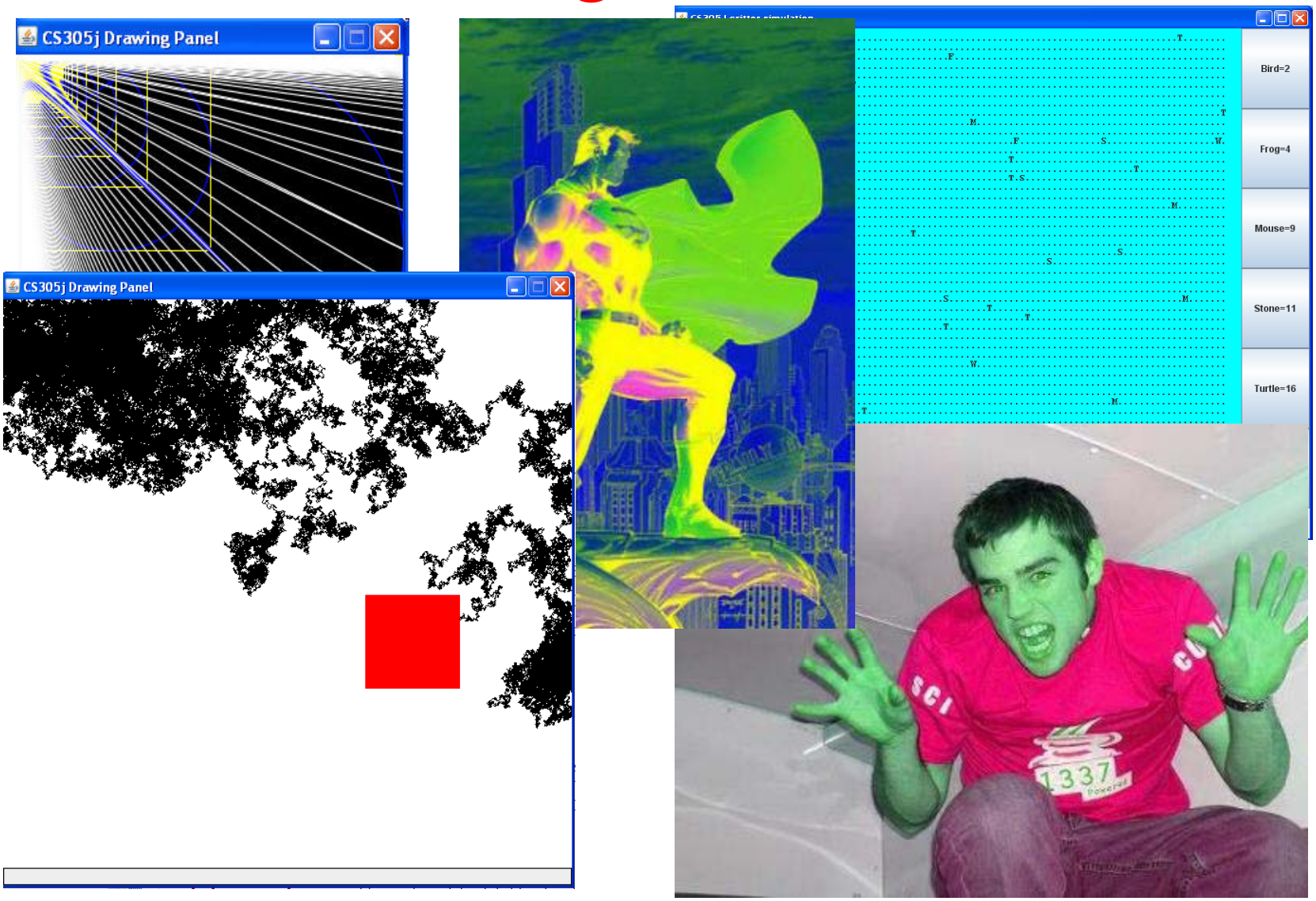
Computer Science

- Study of computation (information processing)
- Many subfields
  - graphics
  - networking
  - artificial intelligence
  - algorithms
  - robotics
  - software engineering
  - systems (operating systems, compilers, programming languages)

Introduction to Computation

- Introduction
  - assume you have "never evered"
- Computation
  - creating algorithms
  - implementing them in computer programs
  - to solve interesting and hard problems

Interesting Problems



Prereqs

- Formal -> Precalculus
- I assume you have basic computer skills
  - email
  - locating files on a computer
  - understanding of a directory structure
  - navigate the web
  - installing programs on your computer
- I assume you have never, ever written a computer program.

Grades

- Final grade determined by final point total and a 900 – 800 – 700 – 600 scale
  - Will be adjusted with plusses and minuses if within 25 points of cutoff: 875 – 899: B+, 900 – 924: A-
- Programming Assignments: 220 points
- Quizzes: 130 Points
- Javabat homework: 49 points
- Midterm 1: 125 points
- Midterm 2: 175 points
- Final: 350 points
- 49 points of “slack” in non exam components

Performance Last Time

- In Fall of 2008 (last time I taught) **128** students enrolled in the course.
- **94** students got a C or better. 51 A's, 28 B's. 15, C's
- **17** students got a D or F.
- **17** students dropped the course
- The majority of students getting Ds or Fs missed one or more exams without an excuse, had a failing homework average, and a failing quiz average -> they quit trying

Course Materials and Procedures

- This information is important!
- If you are new to university level classes, you may be surprised by how much of the responsibility for knowing what to do in a class is up to you.

Course Materials and Procedures

- web site
  - www.cs.utexas.edu/~scottm/cs305j
  - most materials you need are on the web site
  - links, assignments, schedule, coding samples, study materials, section problems
- schedule
  - on the web site
  - schedule of topics
  - includes readings from the book
  - includes links to the slides I use in class
    - posted a day or two in advance. I will not bring copies after today
    - slides are a reference only. We will diverge from the slides on many occasions
  - includes due dates

Course Materials and Procedures

- syllabus
  - very important
  - like a contract between instructor and students
  - policies for the course
  - online with links to more information
- book
  - is required
  - readings and extra problems on schedule are from the book

Course Materials and Procedures

- Lecture
  - lecture / discussion with instructor, MWF
  - not just lecture, I ask questions of you and I encourage you to ask questions of me
  - please leave the laptops shut
- Discussion Section
  - with graduate teaching assistant, Tuesdays
  - coding quiz at the start of each, similar in nature to some test questions
  - your chance to ask questions on the assignments and do practice problems

Course Materials and Procedures

- class listserv
  - sign up for the listserv, procedure in syllabus and on assignment 1
  - post questions about class, assignments, material, concepts
  - answer your class mates questions
  - updates and information from me will come via the listserv
  - no large chunks of solution code on the listserv

Course Materials and Procedures

- Assignments (and practice problems)
  - where 80% of your learning will take place
  - for learning, not evaluation -> low point value
  - posted to class web site
  - see assignment page for general guidelines
  - creating programs using Java
  - usually a complete program
  - sometimes parts of a larger program
  - some assignments done as individual, some can be done with a partner

Course Materials and Procedures

- More on assignments
  - graded on a 20 point scale
    - 10 points correctness
    - 10 points style
      - is it a good solution?
      - not all solutions are equal
      - some better than others
  - program must work, compile errors / runtime errors lose all correctness points

Course Materials and Procedures

- Still more on assignments
  - ***VERY IMPORTANT***: must get account for CS department labs -> see syllabus for procedure
  - turn in assignments to your lab account via the turnin program
    - see link to software on class web page on how to use turnin program
  - turn in the correct thing!
  - slip days, 6 total for the semester

Course Materials and Procedures

- And yet more on assignments
  - graded by teaching assistant and proctor
  - scores posted to egradebook -> link on class web site
  - individual assignments are just that, individual
  - sharing solution code is cheating -> F in the course
  - solutions checked with plagiarism detection software

Course Materials and Procedures

- Exams
  - 2 midterms in class, Wednesday, February 24 and Wednesday, April 7
  - final, Monday, May 10, 2 – 5 pm
    - the final will NOT be given early
  - majority of final grade based on test performance
    - bit of a catch 22
  - tests consist of short answer questions and coding questions
  - tests scores curved if instructor feels necessary.
    - Only up, never down

Javabat Problems

- Small scale problems
- 7 sets
- create account, grant access to TA
- http://javabat.com/

Succeeding in the Course

- Randy Pausch,
  CS Professor at CMU
- "When I got tenure a year early at Virginia, other Assistant Professors would come up to me and say, 'You got tenure early!?!?! What's your secret?!?!?' and I would tell them, 'Call me in my office at 10pm on Friday night and I'll tell you.' "
- Meaning: Some things don't have an easy solution.
- Some things simply require a lot of hard work.

Doing Well

- The students who do well in this class usually:
  - **ask questions and get help when needed**
  - do the readings
  - start early on assignments
  - attend lecture and discussion sections
  - do the Javabat problems
  - participate on the listserv
  - do the extra problems from the book
  - do the Practice It problems from the schedule
  - study for tests using the old tests
  - study for tests in groups

Course Materials and Procedures

- Where to get help
  - email listserv, TA, or instructor
  - instructor, teaching assistant, and proctor lab hours
  - other students (but not on assignments!!!)

Course Software

- can work in CS department microlab, 5th floor of Painter Hall
- login via CS account name and password
- can work at home if you wish
- Java. Free. Web page has details under Software. (JDK 6.0)
- Optional IDE. Recommended IDE is BlueJ, also free
- Purpose of first assignment is to learn course software