Introduction To CPSC 219
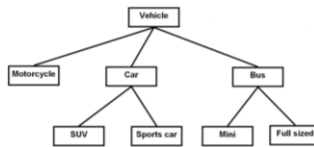
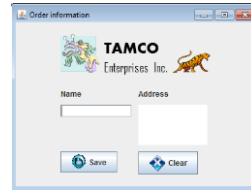## James Tam

Java

Object-Orientation

Graphical-user interfaces

Images courtesy of James Tam

Then And Now…

- CPSC 217: What was it like then

A Lot of work! (Psychedelic Amiga by James Tam)

- CPSC 219: What will it be like now

Even more work!!!

…but don't forget how much smarter you've became!
Image of James Tam: courtesy of James Tam

Administrative (James Tam)

- Contact Information
  - Office: ICT 707
  - Email: tam@ucalgary.ca
  - Please include the course name and number in the subject line: "CPSC 219"

- Office hours
  - Office hours: M (3:30 – 4:20 PM), T (2 – 2:50 PM)
  - If I'm not in my office give me a few minutes or check the lecture room.

My Office

Course Resources

- Required resources:
  - Course website:
    http://pages.cpsc.ucalgary.ca/~tamj/2016/219W/index.html
  - Get the notes off the course webpage before lecture)

- Recommended but not required:
  - "*Absolute Java (6th Ed)*" Walter Savitch, *(Pearson)*
  - Alternately you can pick out one of the 'free' online texts from the university library:
 - http://proquest.safaribooksonline.com.ezproxy.lib.ucalgary.ca/

How To Use The Course Resources

- •They are provided to support and supplement this class.
  - The notes outline the topics to be covered
  - *At a minimum* look through the notes to see the important topics.
  - However the notes are just an outline and just looking at them without coming to class isn't sufficient to do well
  - You will get the details (e.g., explanations) during lecture time
    - •Take notes!

<div align="right">James Tam</div>

Your Engagement Level -±-> Your Learning

Learning

Computer programs

Computer program

colourbox.com
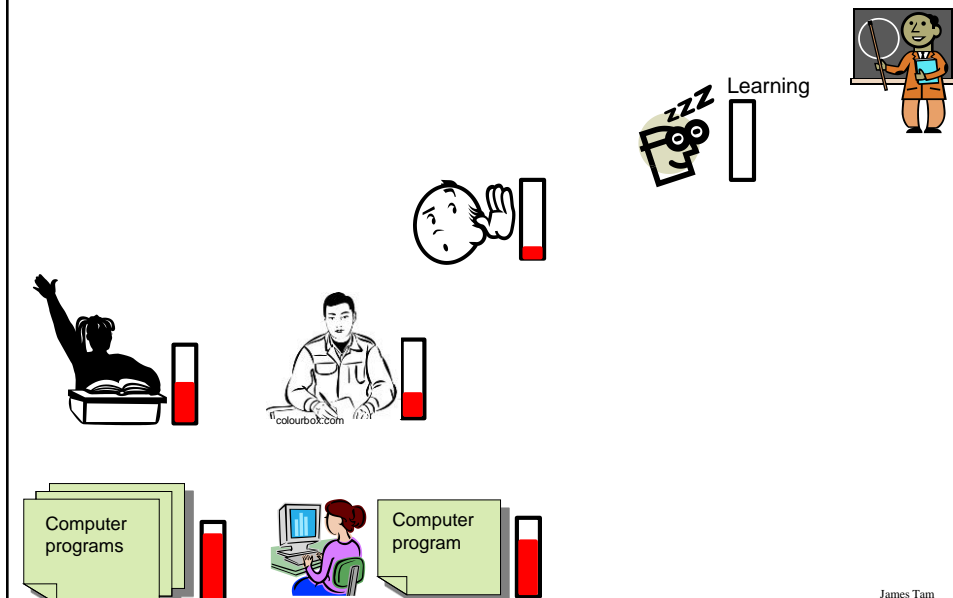
<div align="right">James Tam</div>

How To Use The Course Resources (2)

```
/**********************************************************************
   Displays the current state of the galaxy.  Each sector is bounded
   by a square and the row and column values are labeled.
 **********************************************************************/
// INH: Added char parameter to indicate if it's the attack or movement
// turn phase. Cloaked ships only appear during the attack phase.
public void display (char turn)
{
    int r, c;
    int combatInitiative;

    System.out.println();
    System.out.println(HORIZONTAL_NUMBERS);
    System.out.println(HORIZONTAL_BORDER);
    for (r = 0; r < SIZE; r++)
    {
        System.out.print(r);
        for (c = 0; c < SIZE; c++)
        {
          System.out.print("|");

          if (grid[r][c] != null)
          {
              combatInitiative = grid[r][c].getCombatInitiative();
              if ((turn != 'a') && (combatInitiative == KlingonAttackCruiser.CLOACKED))
                System.out.print (" ");
              else
                System.out.print(grid[r][c].getAppearance());
          }
          else
          {
              System.out.print(" ");
          }
        }
        System.out.println("|");
        System.out.println(HORIZONTAL_BORDER);
    }
}
```

James Tam

How To Use The Course Resources (3)

- What you are responsible for:
  - Keeping up with the content in class which includes the topics covered but also announcements or assignment information whether you were present in the class or not.
  - If you are absent, then you are responsible for getting the information from the other students in class.
  - (I won't be able to repeat the lecture content if you are absent…there's just too many of you to make it practical and recall to get the most out of the class you need to be actively engaged)

- However, after you've caught up by talking with a classmate:
  - Ask for help if you need it
  - There are no dumb questions
  - …except for waiting until the exam
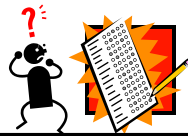
Tam's "House Rules"

- I will endeavor to keep the lecture within the prescribed time boundaries
- You won't pack up and leave before time is up

Tam's "House Rules"

• No recordings/captures without permission during class please

• (Recall that learning tends to increase with additional levels of engagement).

Colourbox.com

Tam's "House Rules"

• Quiet whispering is OK…

…but make sure if it is *quiet*. If it's loud enough for me to hear then it's likely that others are being disturbed by the noise as well.

233 Students: Assumed Knowledge

- You completed CPSC 217 (or the equivalent) with a grade of C- or higher.

- You do not need to know Python programming for this class.
  - However sometimes I will refer briefly to Python programs just to contrast what (most/all) students already know with what they need to learn.

- You are proficient at using common procedural programming tools e.g., branching, loops, decomposition into functions etc.

- If you are new to the CPSC network then you should (quickly) familiarize yourself.
  - One starting point (Topic #0):
  - http://pages.cpsc.ucalgary.ca/~tamj/2016/219W/starting/index.html

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How To Succeed In This Course: A Summary

1. Practice things yourself
2. Make sure that you keep up with the material
3. Look at the material before coming to lecture
4. Start working on things early

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Evaluation Components

- Bonus component (2% in total)
- Assignments (35%)
- Examinations (65%)

In Class Bonus Questions (2% Max Bonus On Term Grade)

- They will be administered using TopHat Monacle
  - https://app-ca.tophat.com
- The questions will be 'randomly' administered during lecture (only) – no 'make up' questions
  - You will be given ample notice before the first questions begin (they won't start immediately)
  - Note that the questions will act as a 'bonus' (you may potentially be awarded an "A" grade even if you receive no marks on the TopHat questions).
  - The questions will be directly related to lecture material.

Assignments

- •There will be two types of assignments
  - Full (regular) assignments (32%)
  - Mini assignments (3%)

- •Full assignments (5 assignments, 32% total):
  - Marking is based on a number of factors (such as program functionality, documentation, style)
  - Assignment 1: worth 5%
  - Assignment 2: worth 8%
  - Assignment 3: worth 8%
  - Assignment 4: worth 5%
  - Assignment 5: worth 6%

- •Mini assignments (6 worth 0.5% each = 3% total)
  - The goal is to create a small and relatively simple program in order to learn basic programming concepts such as Java syntax
  - Marking is focused on program functionality

Assignments

- •Assignments must be individually completed and individually submitted.
  - There is no group work allowed for this class.
  - Students should not see the computer program code of other students.

- •Both types of assignments will be marked by the tutorial instructor.
  - Grades will be posted in D2L
  - You can contact him/her for the grade and/or the completed marking sheet.
  - If you still have questions or issues after contacting your TA then feel free to contact your course instructor.

Submitting Assignments

- **Bottom line: it is each student's responsibility to make sure that the correct version of the program was submitted on time.**

- Late assignments will not be accepted.

- If you are ill then medical documentation is required.
  - Contact your **course instructor** and not your tutorial instructor to get permission for a late submission

I am the 'course instructor' person

- (Further details will be available during the term).

James Tam

JT's Helpful Hint: Electronically Submitting Work

- Bad things sometimes happen!
  - Sometimes it's a technical failure (e.g., hardware failure)
  - Sometimes it's human error (e.g., oops, accidentally deleted)

- Rules of thumb for assignment submissions:
  - Do it early! (Get familiar with the system)
  - Do it often! (If somehow real disaster strikes and you lose everything at least you will have a partially completed version that your TA can mark).
  - Check your work.
    - Don't assume that everything worked out OK.
    - Instead you should check everything (there should be a way to do this using the assignment submission mechanism)
    - Don't just check file names but at least take a look at the actual file contents (not only to check that the file wasn't corrupted but also that you submitted the correct version).

James Tam

Backing Up And Submitting Your Work

•Bottom line: **it is up to you** to make sure things are done correctly and on time.

•If you have questions beforehand then do ask (make sure you ask your questions early enough so you can receive an answer before the due time).

•But don't wait until after the due date (it's too late).

Examinations

•There will be three exams: two midterms and final.

•Midterm examinations (together worth 30% of the overall term grade)
  - Midterm #1: *in class Feb 12*
  - Midterm #2: *in class Mar 11*

•Final exam (worth 35% of the overall term grade
  - Date/time/location determined by the Office the Registrar.
  - (That means I find out these details at the same time that you do).
  - You can find information about your final exams online via the university PeopleSoft portal.

•All examinations will completed on paper (not in front of a computer).

Examinations (2)

- Information about the examinations will be available on the main grid sometime before the respective test:
  - Under the main index:
    - Main grid: Course topics, lecture notes and individual assignment descriptions, exam information
  - Hyperlink:
    - http://pages.cpsc.ucalgary.ca/~tamj/2016/219W/index.html#Main_grid:_Course_topics,_lecture_notes_and_individual_assignment_descriptions,_exam_information

- Note: you **need to pass the weighted average of the exam component in order to receive a grade of C- or higher in this class**.

Mapping Your Raw Score To A Grade Point

- As stated in the course information sheet (official signed document) **each major component will be awarded a grade point (and not a percentage)** as the value used to determine the term grade.
  - Components that are mapped to a grade point
    - Each individual assignment
    - Total score for in-lecture TopHat questions
    - Midterm exams
    - Final exam
- The mapping of raw score to grade point will be posted before each assignment is due (variation between assignments may occur).
- Mapping of TopHat bonus questions to grade point

Percent	96 – 100	91 – 95	86 – 90	81 – 85	76 - 80	71 - 75	65 – 70	61 – 64	56 - 60	51 - 55	46 - 50	< 46
GPA	4.0	3.7	3.3	3.0	2.7	2.3	2.0	1.7	1.3	1.0	0.7	0.0

- The mapping of the midterm to grade point will be posted sometime after the midterm.
- The mapping of final to grade point cannot be provided until after the official term marks have been released (Department policy).

Estimating Your Term Grade

- To determine your weighted term grade point simply multiply each grade point by the weight of each component.

- Sum the weighted grade points to determine the term grade.

- Simple and short example (not exactly the same as this term but it should be enough to give you an idea of how to do the specific calculations required this semester):
  - Assignments: weight = 30%, example score = A
  - Midterm: weight = 30%, example score = B+
  - Final: weight = 40%, example score = C-

  Weighted assignments: 0.3 * 4.0 = 1.2
  Weighted midterm: 0.3 * 3.3 = 0.99
  Weighted final: 0.4 * 1.7 = 0.68
  Total term grade point = 1.2 + 0.99 + 0.68 = 2.87
  (In this case the term letter is B-)

Estimating Your Term Grade (2)[1]

- Use the spreadsheet on the course web page to estimate your term letter grade:
  - http://pages.cpsc.ucalgary.ca/~tamj/2016/219W/grade_calculator.xlsx
- The grade point to letter grade mapping employs the official university cutoffs:
  - http://www.ucalgary.ca/pubs/calendar/current/f-2.html
  - (I **may** employ a more lenient set of cutoffs at the end of term but the official cutoffs will provide you with a 'worse case' estimate of your grade).

1 Note: to keep things simple the formula in the spreadsheet does not check if the exam component was passed or not (you can do the check manually or add it in yourself)

Why Grade Points?

- It's the official university grading system
  - Alternatives are possible but require faculty level approval
- Approval of anything other than a grade point system requires predetermined cutoffs at the start of the term e.g., >= 90% equals 'A' etc.
  - Doesn't allow for consideration that individual components may be more challenging than others (lower cutoffs)
- Grade points are more lenient for grades on the lower-middle end of the scale
  - Grade points: Getting an "A"/4.0 on the assignment component worth 30% of the term grade yields a minimum term grade of 1.2 (4.0 * 0.3) which equates to a term grade of 'D' (possibly higher)
  - Percentages: Getting an "A" may roughly work out to 90% or higher (depending on the scale) which works out to a minimum term percent of 27% = 90% score * 30% weight…almost certainly an "F" for the term grade.

Examination Content

- Multiple choice questions:
  - Partial program traces e.g., what's the program output
  - Basic program structure e.g., find the errors, which function or operator is needed for a particular mathematical operation
  - More examples and details coming during the semester
- Written questions:
  - Write a small/partial computer program.
  - Trace the execution of a computer program e.g., what is the 'output'.
  - Conceptual (lower weight for this type of question) e.g., definition of a technical term.
  - Likely there will be a smaller proportion of written questions on the midterm vs. the final.
- I will be grading the exams.
  - (I'll do the best I can to get them done in a timely fashion but remember this is often a high enrollment class).

Examination Content (2)

- More sample 'exam type' questions will be provided during the semester.
  - Sometimes 'on the fly' in lecture so **pay attention** to these and **take notes**.

Feedback

What is he talking about???

Wow I am the greatest speaker in the world!

Let me know how things are going in the course:
- Am I covering the material too slowly or too quickly.
- Can you read the slides and my hand writing.
- Can you hear me in the class.
- Etc.

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James Tam