

Did you remember to:
install a code-friendly text editor?
complete the course survey:

<http://bit.ly/2017CodCulturePractice>

Outline

Culture

- Exploratory Programming
- Inspirations

Code

- Modifying a program

Practicalities

- Pre-course survey
- Syllabus review
- Next class

Prof. Angela Chang

Lecture 1: Introduction

Fall 2017, Sept 6, 2017

CODE, CULTURE, AND PRACTICE

```
function rand_range(maximum) {
  "use strict";
  return Math.floor(Math.random() * maximum);
}
function choose(array) {
  "use strict";
  return array[rand_range(array.length)];
}
function stanza() {
  "use strict";
  // ...
}
```



Code

- Tools

- Text editor (line numbers)

- SublimeText, Geany, TextWrangler, Notepad++, Atom
 - Internet browser (firefox, chrome)



sublimetext.com

geany.org

atom.io

barebones.com/products/textwrangler (mac only)

notepad-plus-plus.org (windows only)

```
permutations.html
64 <script type="text/javascript">
65 var words = ['CODE', 'THAT', 'POE']
66
67 // Note that while the following
68 // it does not produce them in th
69 // did! Feel free to improve it..
70 function all_permutations(input)
71     // Thanks to user delimited o
72     "use strict";
73     var result = [];
74     function permute(elements, da
75         var current, memo = data
76         for (var i = 0; i < eleme
77             current = elements.sp
78             if (elements.length =
79                 result.push(memo.
80         }
81         permute(elements.slice(
82             elements.splice(i, 0,
83     }
84     return result;
85 }
86 return permute(input);
87 }
88 function display_permutations() {
89     "use strict";
90     var last, text = '', permutat
91         ById('main');
92     last = document.createElement
93     permutations = all_permutatio
94     for (i in permutations) {
95         for (j in permutations[i])
96             text = text + permuta
97         }
98         text = text + '<br />';
99     }
100     last.innerHTML = text;
    main.appendChild(last);
```

A dimly lit room with several computer monitors displaying various patterns and colors, viewed from behind a crowd of people. The monitors are arranged in a row, with some showing solid colors and others showing complex, abstract patterns. The room is dark, with the light from the monitors illuminating the scene. The ceiling is covered in a pattern of small, glowing dots, resembling a starry sky or a digital display. The overall atmosphere is one of a digital art installation or a multimedia presentation.

“Programming for creativity and inquiry”

EXPLORATORY PROGRAMMING

Digital Poetry Slam

<http://nickm.com/memslam>

M E M O R Y S L A M

Love Letters
Christopher Strachey, 1952

Stochastic Texts
Theo Lutz, 1959

Random Sentences
Victor H. Yngve, 1961

Permutation Poems
Brion Gysin & Ian Sommerville, 1960s

A House of Dust
Alison Knowles & James Tenney, 1967

by Nick Montfort, nickm.com

Created for & presented at the first NYU ITP Code Poetry Slam, New York City, November 14, 2014

"Random Sentences" reimplemented & added in response to a commission by Agnieszka Kurant for a reading in Rhinebeck, New York, July 23, 2016



Arrival

It was late evening when K. arrived. The village lay deep in snow. There was nothing to be seen of Castle Mount, for mist and darkness surrounded it, and not the faintest glimmer of light showed where the great castle lay. K. stood on the wooden bridge leading from the road to the village for a long time, looking up at what seemed to be a void.

House of Dust 1968



'Friends' gather inside the House of Dust for a screening, c. 1971

Photo by [Calarts](#)

Poetic installation by Allison Knowles and James Tenney [link](#)

Digital Poetry Slam

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Culture

- Tools
 - Text editor (line numbers)
 - Geany, TextWrangler, Notepad++
 - Internet browser (firefox, chrome)
- Culture
 - Learn about the context of the work
 - Share your code with class
- Recipe:
 - Go to webpage
 - Download source file
 - Open in text editor, examine and tinker
 - Reload

Practice Recipe

You try it!

- Tools
 - Text editor (line numbers)
 - Geany, TextWrangler, Notepad++
 - Internet browser (firefox, chrome)
- Culture
 - Learn about the context of the work
 - Share your code with class
- Recipe:
 - 1. Go to webpage
 - 2. Experience it
 - 3. Download source file as .html
 - 4. Open in text editor, examine and tinker.
 - Reload (drag into browser or double click the file in finder/explorer)

Right click → Save As

Then use the following short cuts:

Select All (Ctrl-A or ⌘-A)

Copy (Ctrl-C or ⌘-C)

Paste (Ctrl-V or ⌘-V)

into your text editor

Save file (Ctrl-S or ⌘-S)

to your desktop

Problem? (Ctrl-Z or ⌘-Z) to Undo



https://nickm.com/memslam/a_house_of_dust.html

Essential Concepts

Programming = editing text

Data

- Content

```
subjects = ['COUNT', 'STRANGER', 'LOOK', 'CHURCH', 'CASTLE', 'PICTURE',  
            'EYE', 'VILLAGE', 'TOWER', 'FARMER', 'WAY', 'GUEST', 'DAY',  
            'HOUSE', 'TABLE', 'LABOURER'],  
predicates = ['OPEN', 'SILENT', 'STRONG', 'GOOD', 'NARROW', 'NEAR',  
              'NEW', 'QUIET', 'FAR', 'DEEP', 'LATE', 'DARK', 'FREE',  
              'LARGE', 'OLD', 'ANGRY'],  
conjunctions = [' AND ', ' OR ', ' THEREFORE ', '. ', '. ', '. ', '. ', '. '],  
operators = ['A', 'EVERY', 'NO', 'NOT EVERY'];
```

Code

- Instructions

```
function rand_range(maximum) {  
    "use strict";  
    return Math.floor(Math.random() * (maximum + 1));  
}  
function choose(array) {  
    "use strict";  
    return array[rand_range(array.length - 1)];  
}  
function phrase() {  
    "use strict";  
    var text = choose(operators) + ' ' + choose(subjects);  
    if (text === 'A EYE') {  
        text = 'AN EYE';  
    }  
    return text + ' IS ';  
}
```

Exploratory Programming



Creative Coding

Students create art to teach programming skills.

Allan Kay * Seymour Papert * John Maeda



Programming as Inquiry

A different way to think, a way to extend our powers of thinking (analysis, critique)

Douglas Englebart "augmenting human intellect"

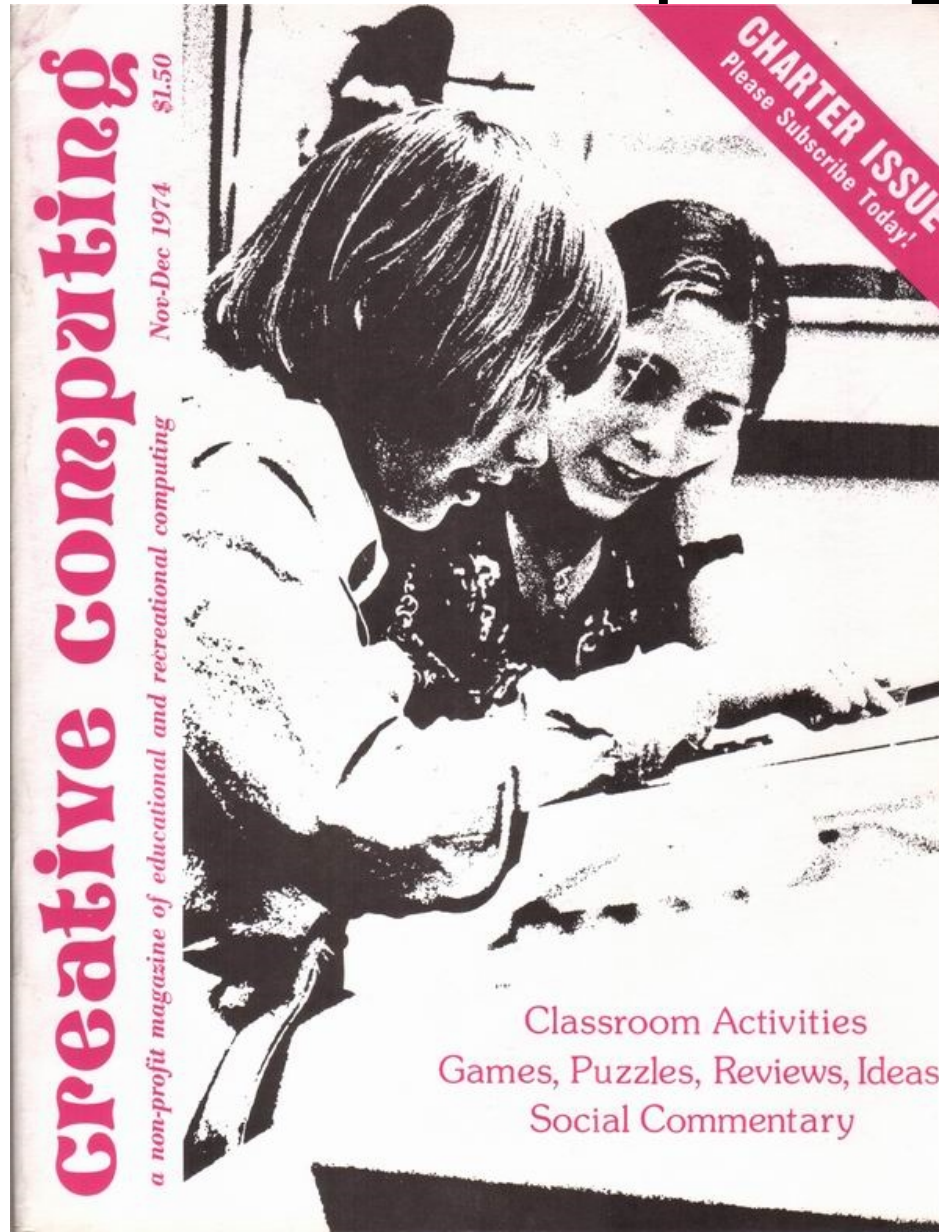
founders



Allan Kay, Kids Collaborating while learning SmallTalk 1970

Creative Computing

Creative Computing
, edited David
Ahl, 1974-1985
Photo from
<http://www.vintage-computer.com/creativecomputing.shtml>



Interdisciplinary

across media

- text
- animations
- sound

across languages

- JavaScript
- **Python**
- Processing

Collaborative



SYNCHRONY.nyc

###_###_###_>\

###_###_2017_###

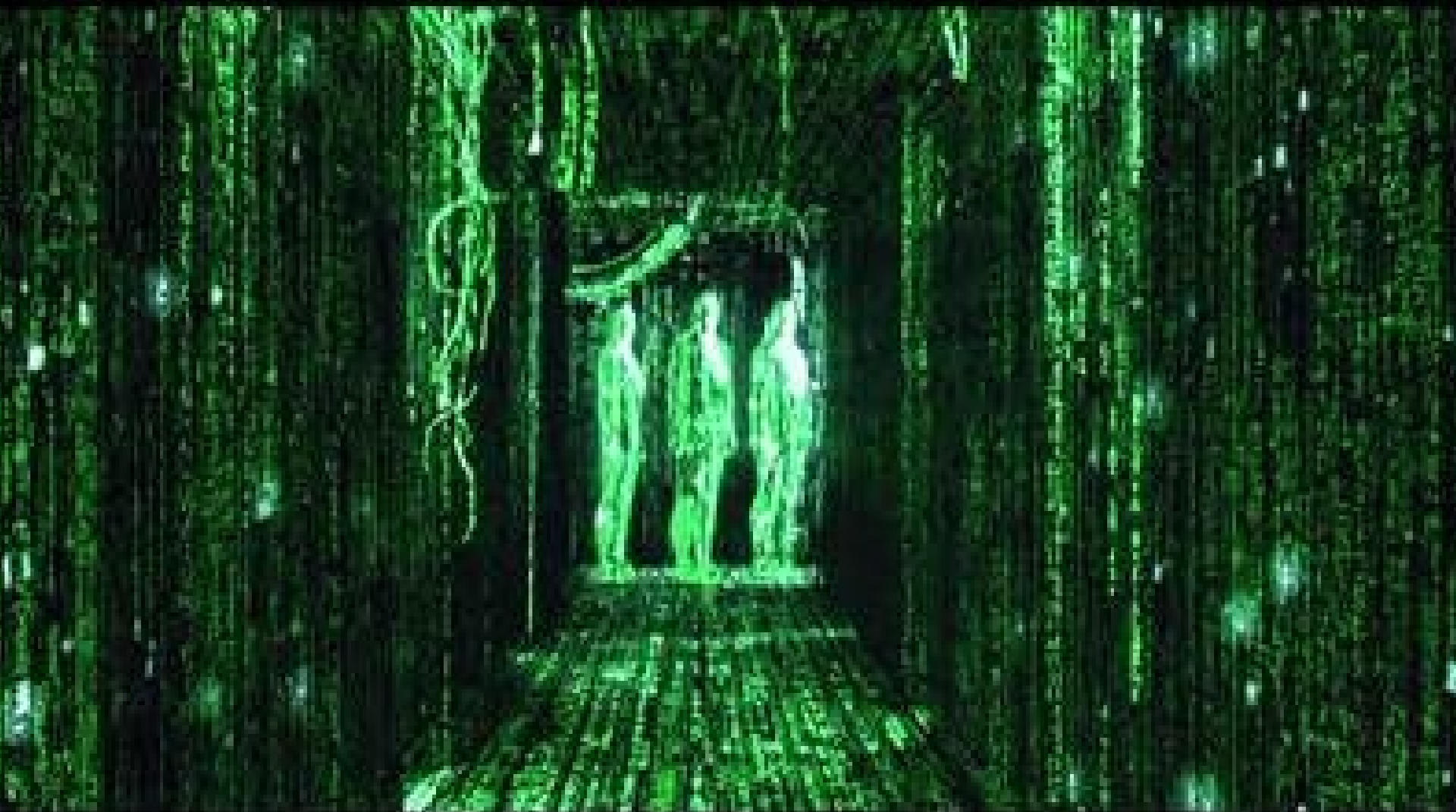
--_/_<_>=<_>=<_>_____>_<_>=<_>=<_>\

Who's coming:

nom de nom | Flourish | Luis^TRSI^DESIRE | Dr.Claw / ThEMM | Penganz | Jason

@bostondemoscene

Culture



- Surveillance, Census, News, Politics, Civic Engagement, Social
- ATMs, Voting machines, military systems, security, games

sosolimited: ReConstitution 2008

live remixing the presidential
debates between Bush & Obama



<https://www.sosolimited.com/work/reconstitution-2008/>

Remixing and Posting

http://nickm.com/taroko_gorge/
Taroko Gorge

by Nick Montfort

(9/1/2008)

*written as he
experienced the
mountain passes*

& others...

[Scott Rettberg](#)
[J.R. Carpenter](#)
[J.R. Carpenter](#)
[J.R. Carpenter](#)
[Talan Memmott](#)
[Eric Snodgrass](#)
[Mark Sample](#)
[Maria Engberg](#)
[Flourish Klink](#)
[Andrew Plotkin](#)
[Brendan Howell](#)
[Adam Sylvain](#)
[Leonardo Flores](#)
[Alireza Mahzoon](#)
[SonnyRae Tempest](#)
[KathInman Berens](#)
[Helen Burgess](#)
[Judy Malloy](#)
[Bob Bonsall](#)
[Chuck Rybak](#)
[Zach Whalen](#)
[Leonardo Flores](#)
[JohnPatMcNamara](#)
[James T. Burling](#)
[Piotr Marecki](#)
[Darius Kazemi](#)
[Roman Kalinovski](#)
[AndersGonzo Gaard](#)

Photo by Allen Timothy Chang on [wikimedia](#)

Class details

- Syllabus review: enter your feedback
Pre-course survey <http://bit.ly2017CodeCulturePractice>
- Class Participation & Homework
Participation <http://bit.ly/Class1ParticipationFall17>
Homework <http://bit.ly/MyPoetryGenerator>
 - Revise a different poetry generator (see <http://nickm.com>). Develop a program that is personally relevant and different from what you did in class. Keep it self-contained, though, and keep the code about the same length.
 - Choose one that is doable for your skill level.
 - In the submission write a short note about
 - what you changed
 - how the piece conveys “your message”

Javascript Poetry Generator		🔍 🗑
Criteria		Pts
Survey Completion		1 pts
Edited code		3 pts
Description of what was attempted. What worked and what didn't?		1 pts
Your message		1 pts
		6

Bonus: View the first 1min 50seconds of The Art of Creative Coding Video
<http://bit.ly/CreativeCodingArt>

Summary of today

- Code & Fundamentals
 - Text Editors
 - Code & Data
- What this course is about:
 - Code – understanding and manipulating code on your machine
 - Culture – artist inquiry, critique, dialogue
 - Practice –code as an essential tool and art form
- Homework– upload to Canvas or webpage
- Survey bit.ly/2017CodeCulturePractice

Next class: installing Jupyter Notebook Python 2.7