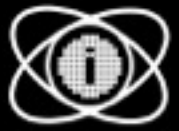

INDEPENDENT GAMES SUMMIT

Tracery

generating text, graphics, and more!

Kate Compton
UC Santa Cruz

GDC GAME DEVELOPERS CONFERENCE March 14-18, 2016 · Expo: March 16-18, 2016 #GDC16

Kate Compton (@galaxykate)

Worked on Spore🌍
Worked on SimCity🔥
Went back to grad school
UCSC Expressive Intelligence Studio

I do PCG.

Tracery

"I thought I was making a text-generation toy but I accidentally wrote a powerful multipurpose language instead.

And then twitterbots happened."

```
    <link rel="stylesheet" href="css/page.css">
    <script src="js/vendor/jquery.min.js"></script>
    <script src="js/tracery/mods-eng-basic.js"></script>
    <script src="js/tracery/tracery.js"></script>
</head>

<body>
    <div id='main-col'>
        (content will go here)
    </div>
</body>
<script type="text/javascript">
    // Create your grammar
    var grammar = tracery.createGrammar({
        target : ["their parents", "love", "eternal life", "game funding", "candy", "the truth
        typeOf : ["robotic", "undead", "magical", "heroic", "unemployed", "sexy", "sarcastic",
        noun : ["artist", "programmer", "puppy", "viking", "necromancer", "assassin", "princes
        gameSubject : ["#typeOf# #noun.s#", "a #typeOf# #noun# searching for #target#"],
        gameGenre : ["visual novel", "dating sim", "rhythm game", "VR experience", "pixel plat
        gameIdea : ["A #gameGenre# about #gameSubject#"],
    });

    // Add useful english-language modifiers
    grammar.addModifiers(baseEngModifiers);

    // Make content!
    var holder = $("#main-col");
    for (var i = 0; i < 30; i++) {
        var s = grammar.flatten("#gameIdea#");
        holder.append("<p>" + s + "</p>");
    }

</script>
```

A tower defense game about a magical assassin searching for candy

A walking simulator about a good-looking princess searching for love

A collectable card game about a ex-CIA princess searching for eternal life

A pixel platformer about sexy programmers

A pixel platformer about magical princesses

A squad-based tactics game about

```
    <link rel="stylesheet" href="css/page.css">
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        gameSubject : ["#typeOf# #noun.s#", "a #typeOf# #noun# searching for #target#"],
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</script>
```

A visual novel about a sexy necromancer searching for eternal life

A tower defense game about unemployed puppies

A rhythm game about heroic artists

A squad-based tactics game about sarcastic princesses

A walking simulator about a sexy artist searching for eternal life

A squad-based tactics game about undead puppies

A shooter about robotic assassins

A collectable card game about a magical puppy searching for candy

A squad-based tactics game about a undead princess searching for candy

A pixel platformer about a good-

Language features

symbols in hashtags
are replaced with rules

```
“greetings”: [“hello”, “nihao”],
“origin”: “#greetings#, World”
```

```
femmeFrenchAdj : "d'or maudite tacite omb
mascFrenchAdj : "amusé maudit tacite regr
frenchAdj : ["#femmeFrenchAdj#", "#mascFr
mascFrenchNoun : "toit chêne regret pinso
femmeFrenchNoun : "forêt mer auberge chai
frenchNoun : ["#femmeFrenchNoun#", "#masc
frenchPlaceName : ["Le #mascFrenchNoun.co

color : ["green", "red", "violet", "tafet
personDesc : ["feminine", "pregnant","gri
personSuit : ["sundress", "unitard", "bat
personPostDesc : ["in #color.a# #personSu
personType : ["supermodel", "witch", "sol

patronSingle : ["#personDesc.a# #personTy

patronPair : ["#patronSingle# and #patron
personGroup : ["a group of", "dozens of",
patronMulti : ["#personGroup# #personDesc
```

Language features

- Recursively define “symbols”
- Use modifiers to change text (pluralize, etc)
- Store and re-use generated text

```
femmeFrenchAdj : "d'or maudite tacite omb
mascFrenchAdj : "amusé maudit tacite regr
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```
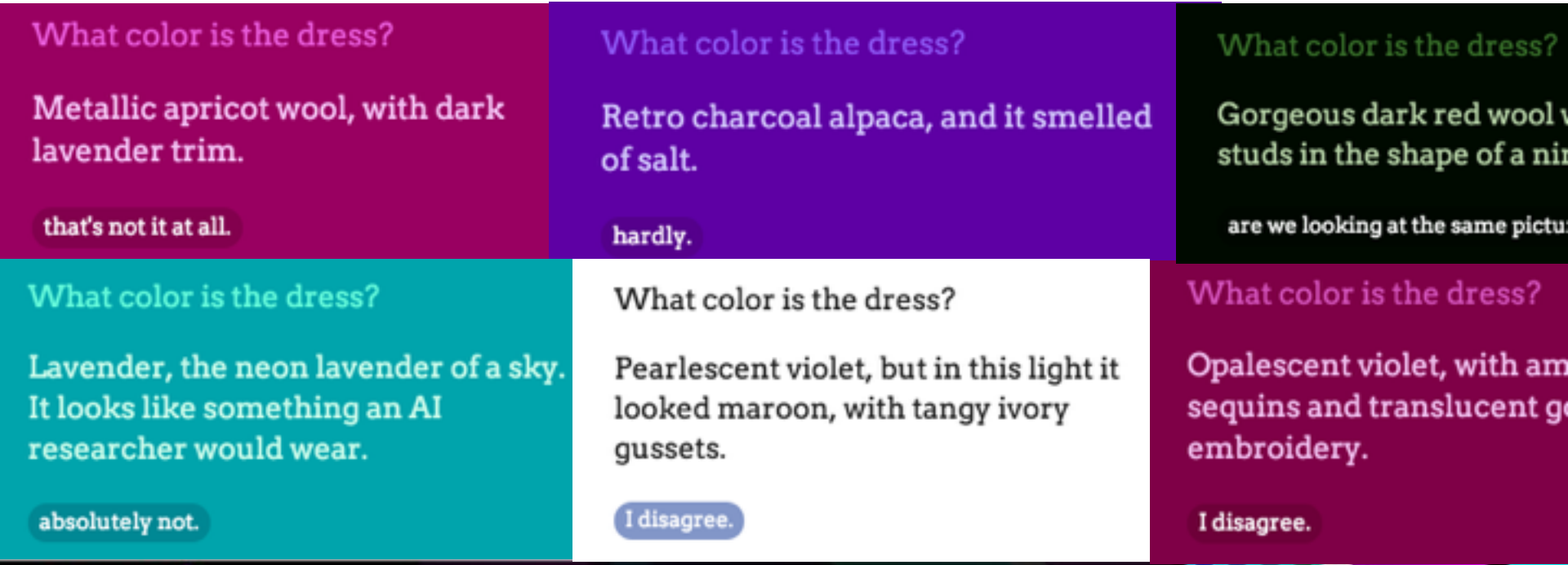
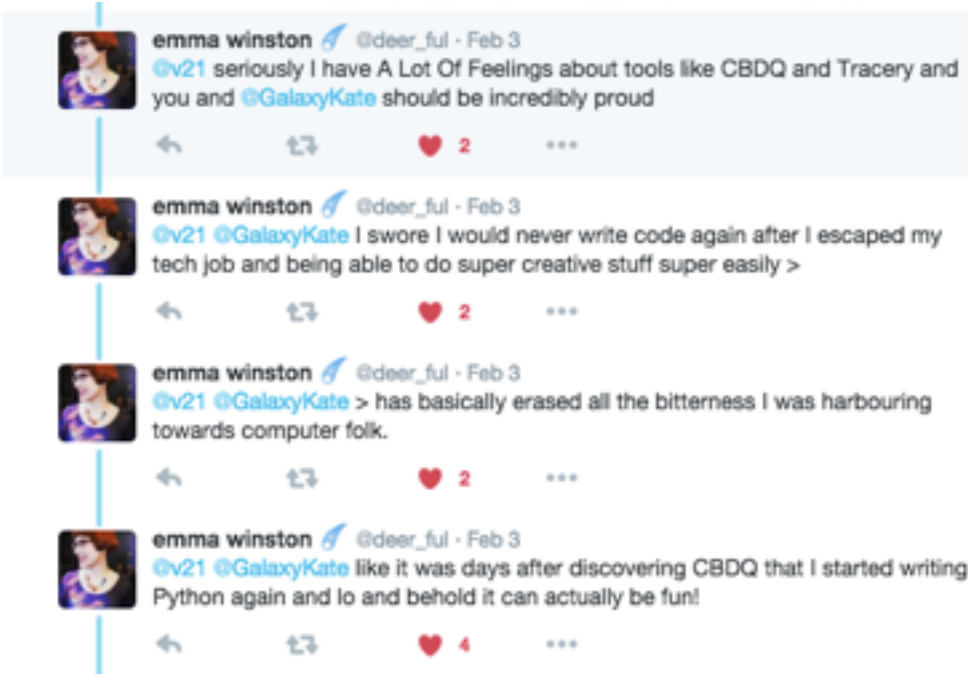

Tracery does text generation



TLDR, Tracery is easy to use.



emma winston @deer_ful · Feb 3
@v21 seriously I have A Lot Of Feelings about tools like CBDQ and Tracery and you and @GalaxyKate should be incredibly proud
2

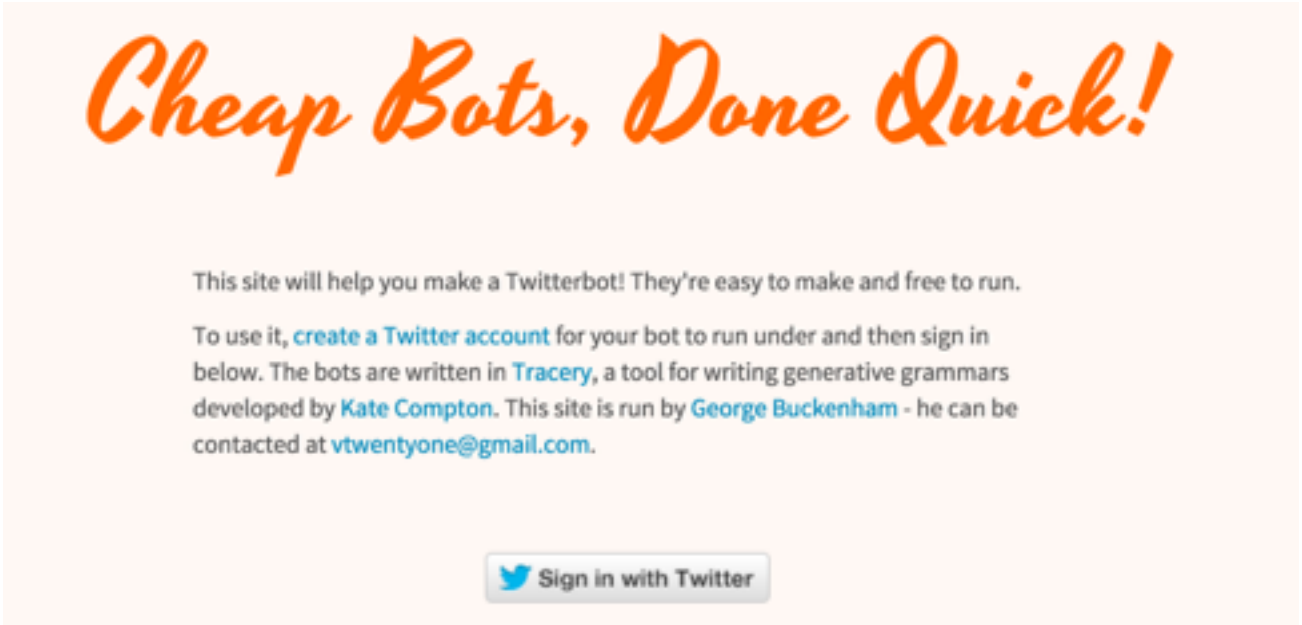
emma winston @deer_ful · Feb 3
@v21 @GalaxyKate I swore I would never write code again after I escaped my tech job and being able to do super creative stuff super easily >
2

emma winston @deer_ful · Feb 3
@v21 @GalaxyKate > has basically erased all the bitterness I was harbouring towards computer folk.
2

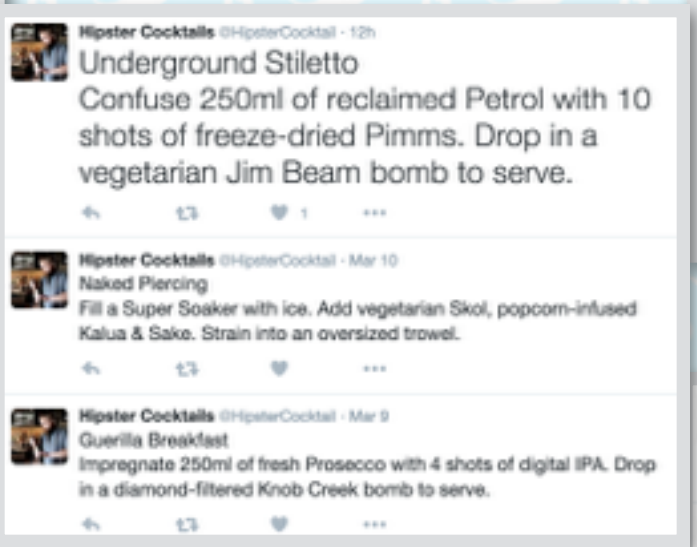
emma winston @deer_ful · Feb 3
@v21 @GalaxyKate like it was days after discovering CBDQ that I started writing Python again and lo and behold it can actually be fun!
4

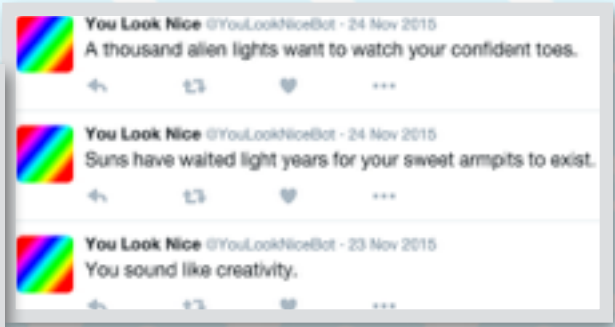
The power of hosting: George Buckenham

cheapbotsdonequick.com



Deep Space Probe @DeepSpaceProbe · Jan 31
Orbiting a variable red giant. The magnetic waves were crumbling in the light.
Deep Space Probe @DeepSpaceProbe · Jan 30
56276916 days. Operating in the M88 white dwarf. The interlaced orbital discs were singing.
Deep Space Probe @DeepSpaceProbe · Jan 29
Stationary within a dark white dwarf. The orbital discs were crying with joy.
Thinkpiece Bot @thinkpiecebot · Mar 10
Millennials Are Using Runaway Inflation To Get Sex
Thinkpiece Bot @thinkpiecebot · Mar 10
The New Craze In Brooklyn Is 8-Bit Robots

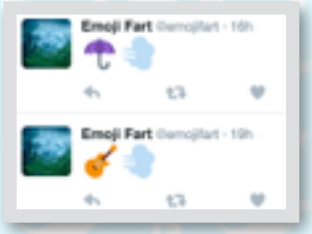

Hipster Cocktails @HipsterCocktail · 12h
Underground Stiletto
Confuse 250ml of reclaimed Petrol with 10 shots of freeze-dried Pimms. Drop in a vegetarian Jim Beam bomb to serve.
Hipster Cocktails @HipsterCocktail · Mar 10
Naked Piercing
Fill a Super Soaker with ice. Add vegetarian Skol, popcorn-infused Kalua & Sake. Strain into an oversized trowel.
Hipster Cocktails @HipsterCocktail · Mar 9
Guerilla Breakfast
Impregnate 250ml of fresh Prosecco with 4 shots of digital IPA. Drop in a diamond-filtered Knob Creek bomb to serve.


You Look Nice @YouLookNiceBot · 24 Nov 2015
A thousand alien lights want to watch your confident toes.
You Look Nice @YouLookNiceBot · 24 Nov 2015
Suns have waited light years for your sweet armpits to exist.
You Look Nice @YouLookNiceBot · 23 Nov 2015
You sound like creativity.

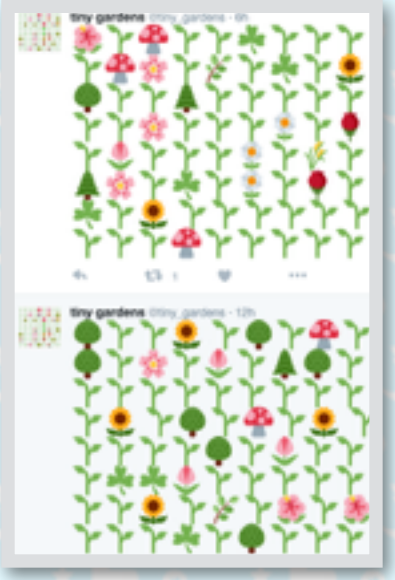
Bot Carrión @BotCarrion · Feb 23
In the new art, poetry may not be an element of a structure , here begins the new art of making books.
Bot Carrión @BotCarrion · Feb 23
In the new art, language may be an autonomous and self-sufficient form where nothing happens.

Tiny Gallery @thetinygallery · 6h
Tiny Gallery @thetinygallery · 12h
Tiny Gallery @thetinygallery · 18h

choo choo bot @choochoobot · 10h
choo choo bot @choochoobot · 12h


Emoji Fart @emojifart · 16h
Emoji Fart @emojifart · 19h

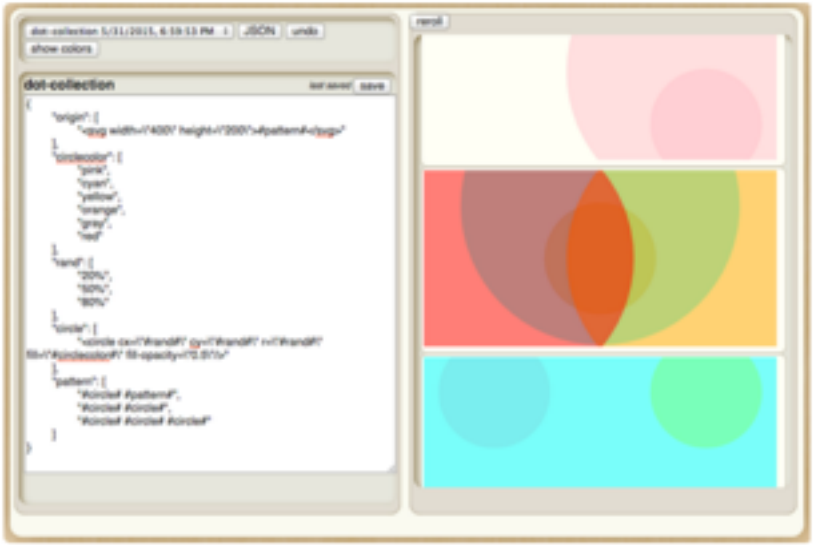
infinite deserts_ϕ__ @infinitedeserts · Mar 9
. .o0
infinite deserts_ϕ__ @infinitedeserts · Mar 9


tiny gardens @tiny_gardens · 6h
tiny gardens @tiny_gardens · 12h

Ranjit Bhatnagar
@ranjit

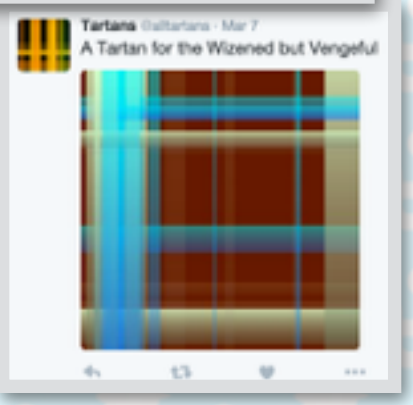
Following

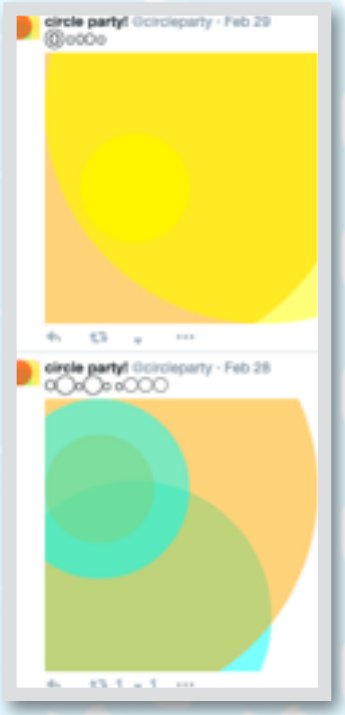
Makin' graphics with @GalaxyKate's Tracery
brightspiral.com/tracery/



RETWEETS 4 LIKES 10

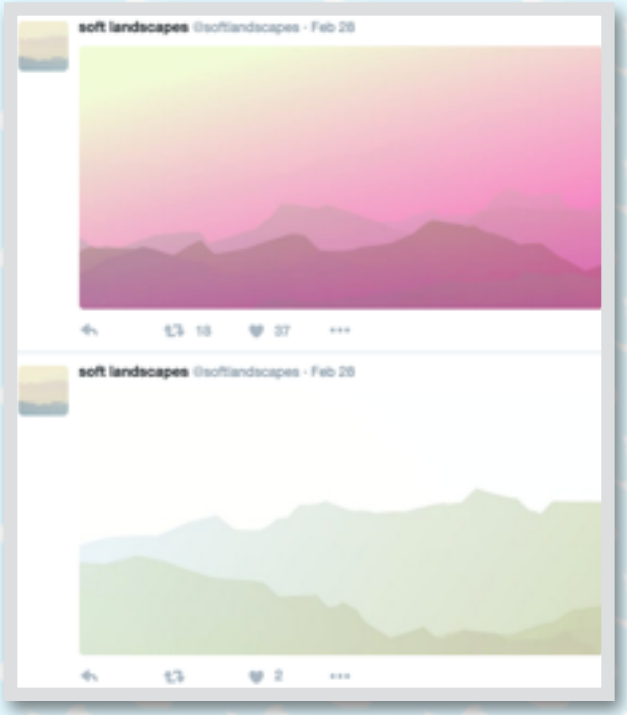
Tartans @alltartans · Feb 29
A Tartan for Children Lost and Bewildered


Tartans @alltartans · Mar 7
A Tartan for the Wizened but Vengeful


circle party! @circleparty · Feb 29
circle party! @circleparty · Feb 28

Tiny Space Adventure @TinyAdv · Mar 10
The Wonder Sunbee
Has a crew of unassuming air-navigators

Tiny Space Adventure @TinyAdv · Mar 10
The Eonius Blossom
Has a crew of heavily-armed were-witches


soft landscapes @softlandscapes · Feb 28
soft landscapes @softlandscapes · Feb 28

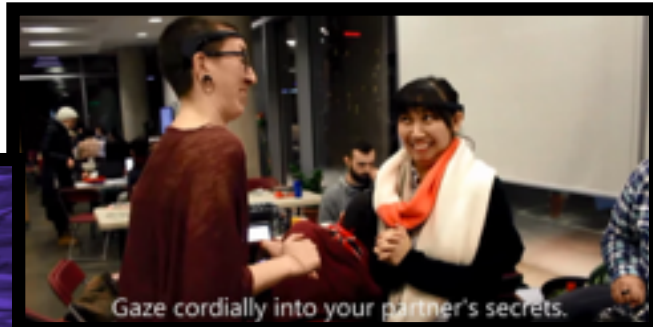
But you can still use it in Javascript games

- and Ruby (thanks Eli Brody!)
- and Python (thanks Allison Parrish!)
- and Twine (thanks Matthew Balousek!)

maybe Unity?

In experimental games..

Squinky and Jess Marcotte
Most Sincere Greetings, Esteemed One

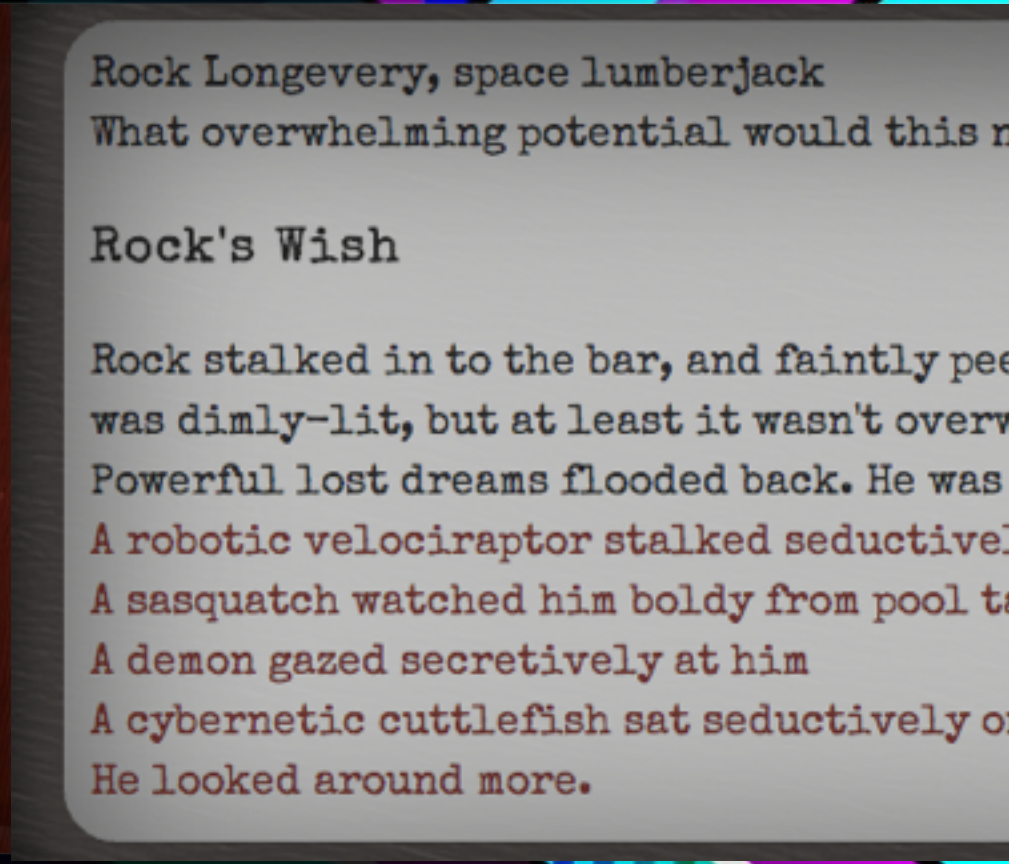


Squinky's
Interruption Junction
and ***Fitzwilliam Darcy's Dance Challenge***

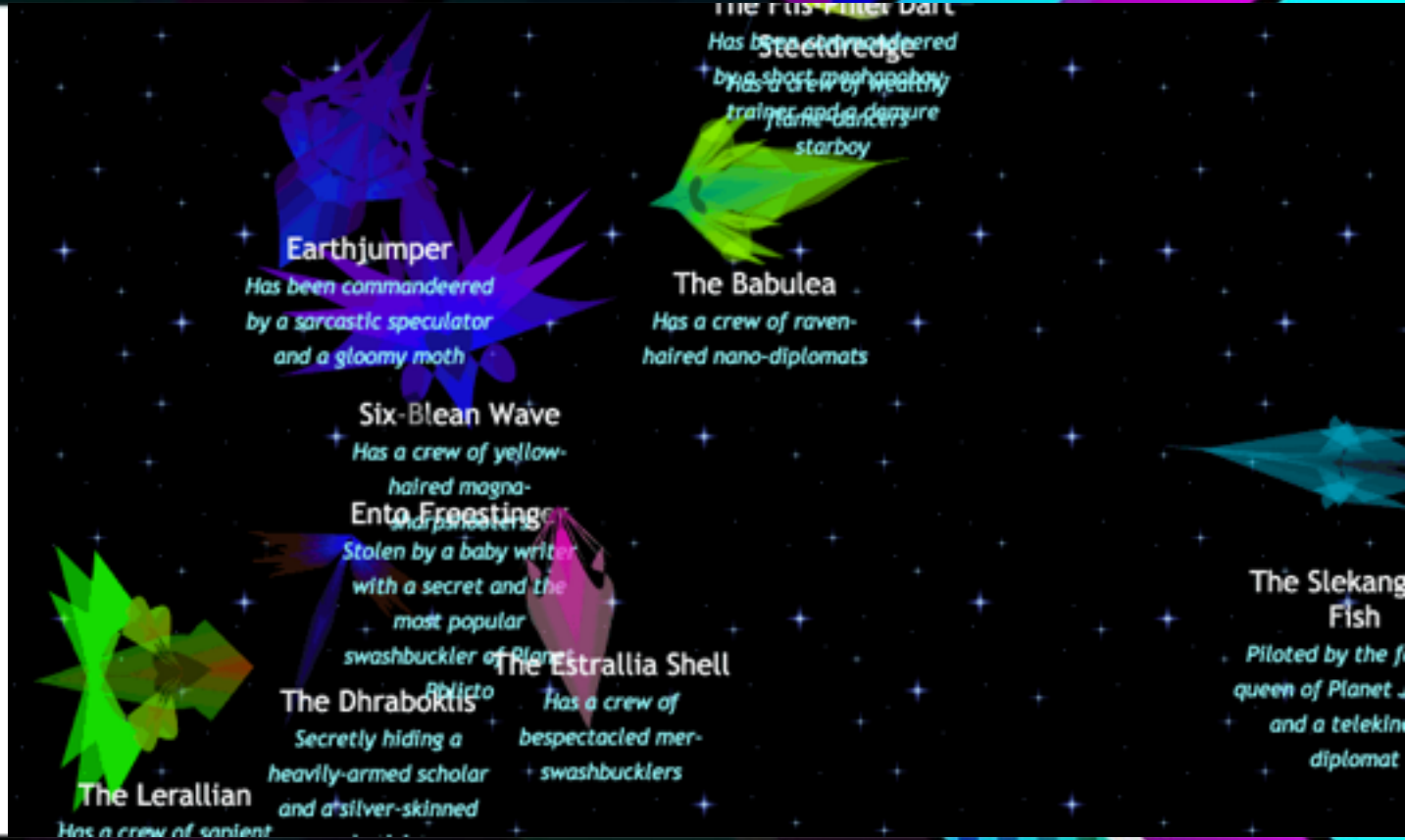
Experiments with non-experimental games

Can you use Tracery to "dress up" **a simple simulation** or **a finite state machine**

…and get an interesting game?

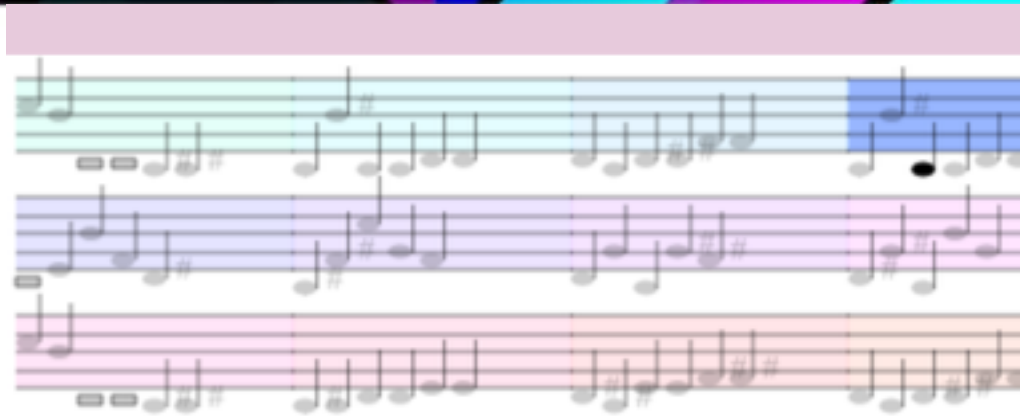


- NPC dialogue
- Generated backstory
- Scene descriptions
- ?



Things you can represent as text:

- SVG, webpages
- Music
- Level layouts
- ….Code?



Code generation, music generation, and more?

Thank you, users!

Nora Reed
@noraReed

Ranjit Bhatnagar
@ranjit

Aaron Reed
@aaronreed

Emma Winston
@deer__ful

George Buckenham
@v21

Jacob Garbe
@logodaedalus

Dietrich Squinkifer
(Squinky)
@TheSquink

Katie Rose Pipkin
@katierosepipkin

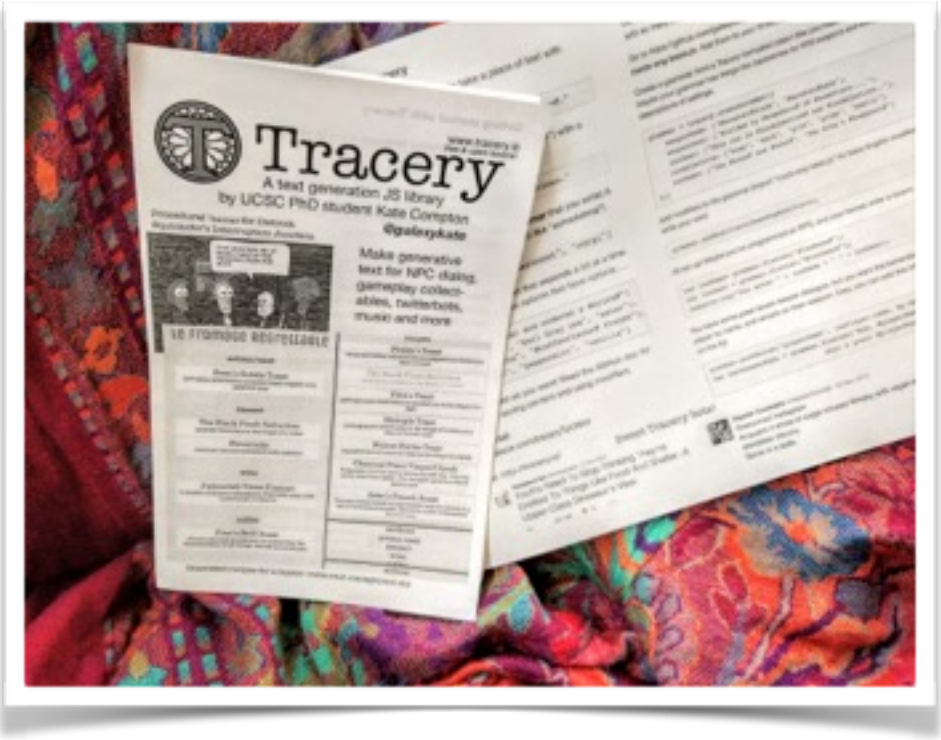
Justin Riley
and his class of middle schoolers
@20hz20khz

And too many more to list!

I wouldn't have known what Tracery was without you

Have a zine!

Check out tracery.io!

Contact me at galaxykate@gmail.com

Questions?