



# Narrative-focused video games development with Ren'Py

Susan Shu Chang

**Start**



# About me

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## Quill Studios

- Developer
- Writer
- PM
- Marketing



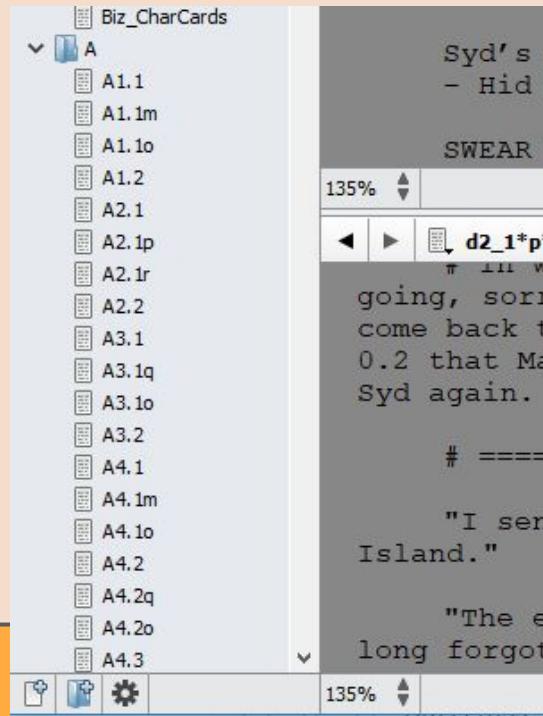
## Other work

- Co-organize AISC (ML livestreams)
- Data Scientist
- susanshu.com



# I started this project 2+ years ago...

ASW Draft 0.5 (backup)	Dec 29, 2017
ASW 0.4 Backup	Dec 26, 2017
ASW 0.4 Backup	Dec 26, 2017
ASW Script 0.4	Dec 23, 2017
ASW-Opening Scenes V2.0 ★	Sep 4, 2017



I have the story,  
now what?



# A Summer with the Shiba Inu, made in Ren'Py



Location:  
Canine-da  


Console  
launch: June  
23, 2020

Sold: 5,000,  
at ~\$10 USD  
(~700 ₹)  
per unit



# Talk overview

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1. Overview of gaming industry
2. Narrative games (visual novels)
3. Ren'Py, open source Python-based game engine

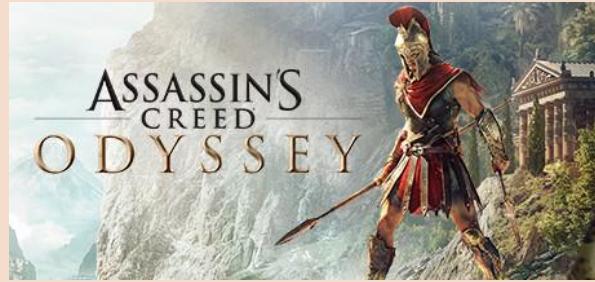
# Platforms: computer OS and consoles

- Windows, Linux, Mac
- Nintendo Switch
- XBox One
- Playstation 4



# AAA studios typically are large, have funding

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# Indie studios are smaller, yet grew popular

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(Short for independent)



# Some “indies” have large budget; ambiguous

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*pyladies*

susanshu.com



# Roles in game development

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- Narrative design, writing...
- Game programmer, Engine/Physics developer
- Producer, project coordinator...
- 3D artist, animator, concept artist...



# Python helped me enter “indie” development

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- Already use in my full-time job (machine learning)
- Great documentation
- Object oriented programming



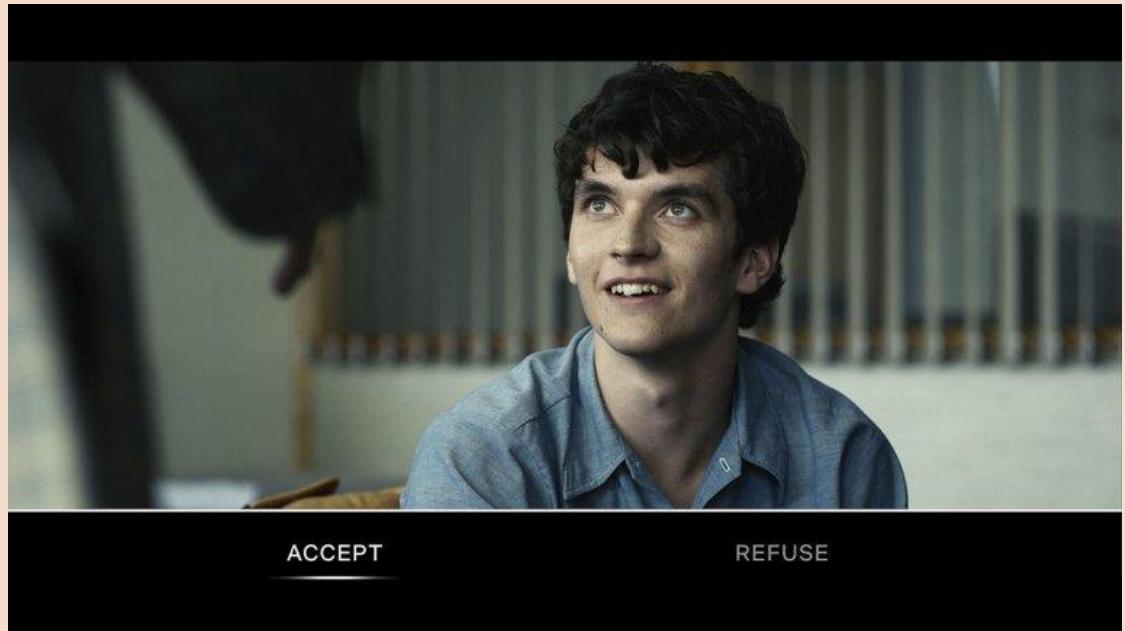
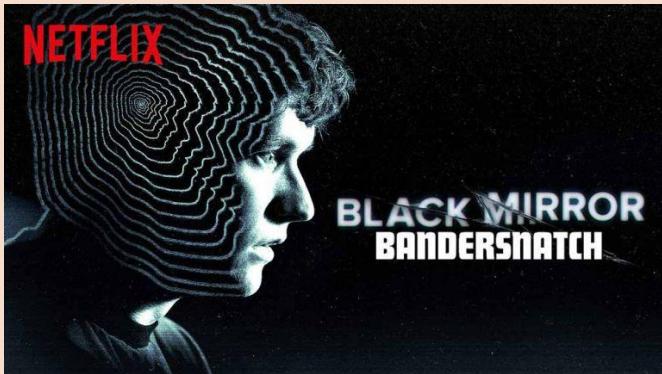
# Talk overview

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# “Narrative-driven” can be done many ways

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# “Narrative-driven” can be done many ways



# “Visual novel” style narrative delivery is popular

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Persona 5

Credit: Atlus USA

# “Visual novel” style narrative delivery is popular

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Danganronpa V3

Credit:  
Spike Chunsoft

# Difficult to build custom engine as solo dev

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Custom engines are everywhere!



# Difficult to build custom engine as solo dev

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Custom engines are costly



# Talk overview

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1. Overview of gaming industry
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# Ren'Py is open source & high production

## Games made in Ren'Py

- From NaNoRenO to high budget

Screenshot of the GitHub repository for Ren'Py ([renpy/renpy](https://github.com/renpy/renpy)) showing its open source status and activity.

The repository has 132 stars, 1.7k forks, and 292 contributors. It features 9,274 commits, 27 branches, 438 releases, and 98 contributors. The current branch is master. Recent pull requests include:

- renpytom Merge pull request #2054 from Andykl/fix-2053
- gui Remove information about mac signing.
- launcher translation update
- module gl2: Extract model out into its own file.

Latest commit 52aeaf1 was made 1 hour ago.



# Ren'Py is open source & high production

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Games made in Ren'Py

- From NaNoRenO to high budget
- PyTom's philosophy
  - “The best way to make visual novels, and give it away for free”



# Ren'Py is open source & high production

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Games made in Ren'Py

- From NaNoRenO to high budget
- PyTom's philosophy
  - “The best way to make visual novels, and give it away for free”
- OOP is standard in game development



# Ren'Py is flexible - screen customization

Aside: Ren'Py has a Lexer for non-programmer friendly syntax

```
screen gallery:

# naming convention: "gal1" the number of
tag menu

add "gui/screen_gall.png"

imagebutton auto "gui/credits_%s.png":
    xpos gui.navigation_xpos
    yalign 0.25
    action [ Hide("gallery"), Jump("credit
```

Ren'Py Documentation    Home Page    Online Documentation



Creator-Defined Statements  
Lint Utility Functions  
Example

**class Lexer**

**error(msg)**  
Adds a *msg* (with the current position) in the list of errors. This does not prevent further parsing.

**require(thing, name=None)**  
Tries to parse *thing*, and reports an error if it cannot be parsed.  
If *thing* is a string, tries to parse it using `match()` without arguments. If *name* is not specified, the name of the thing will be used.

**eol()**  
True if the `Lexer` is at the end of the line.

**expect\_eol()**  
If we are not at the end of the line, raise an error.

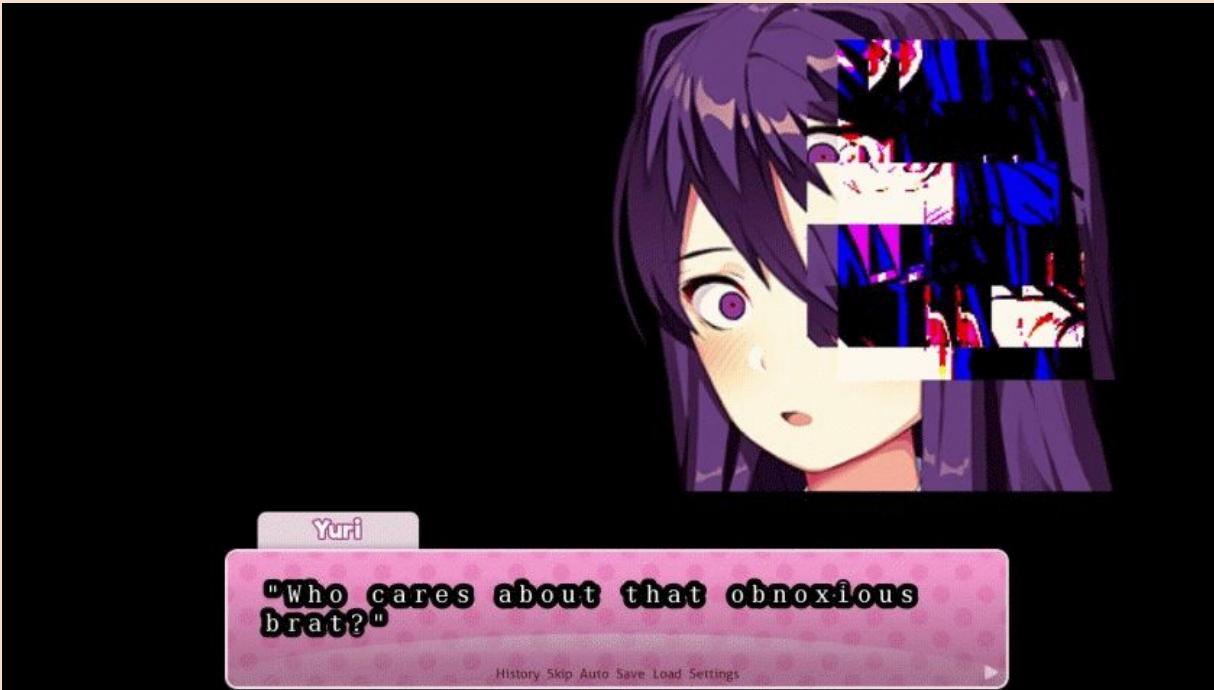
**expect\_noblock(stmt)**  
Called to indicate this statement does not expect to receive the message with an error.



# Ren'Py is powerful - flexible visual effects

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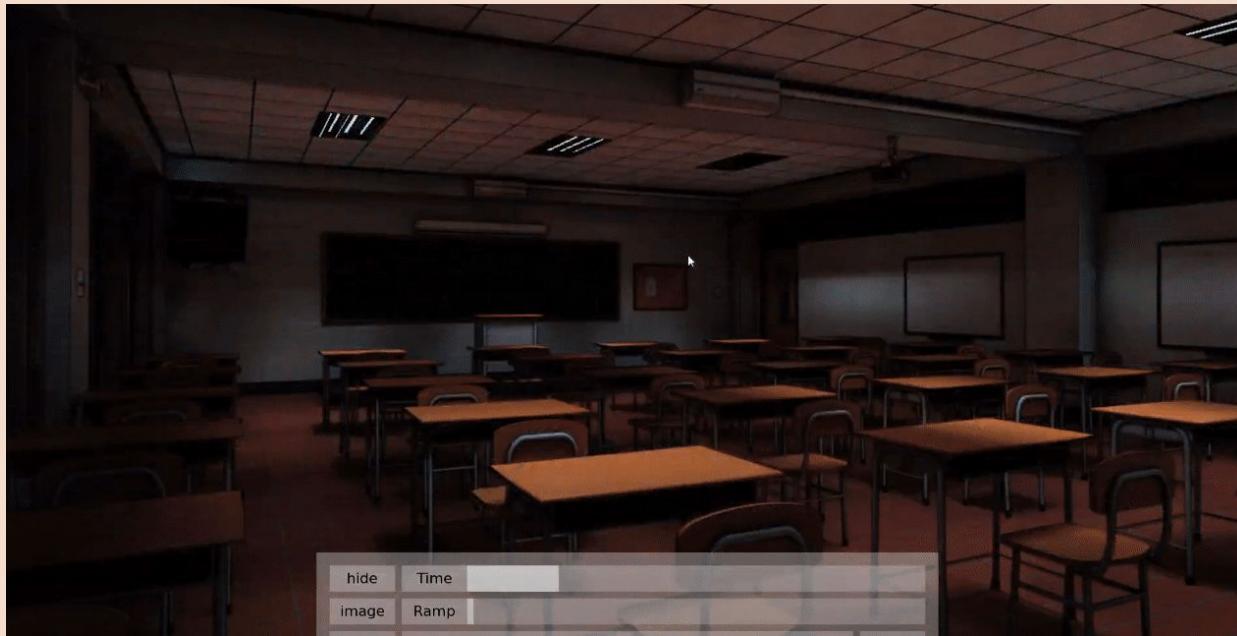
## Doki Doki Literature Club



Credit:  
Team  
Salvato

# Ren'Py is powerful - flexible visual effects

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Video: Kia Azad

[https://www.youtube.com/watch?v=h\\_8TGvSBCU8&ab\\_channel=KiaAzad](https://www.youtube.com/watch?v=h_8TGvSBCU8&ab_channel=KiaAzad)

# Ren'Py is powerful - flexible visual effects

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- Add image and create transition
- Modify something in `ImageDissolve` class



```
1  init:  
2  
3      $ pycon = ImageDissolve("wipes/pycon_transparent_transition.png", 2.0, 8)  
4      $ dmg = ImageDissolve("wipes/dmg_transparent_transition.png", 2.0, 8)  
5  
6  label start:
```

History Collection Auto Skip Settings Load Save



# Ren'Py is powerful - complicated variables

## Long Live the Queen

The image shows a screenshot of a Ren'Py game interface. On the left, there are two columns of stat bars. The top column is for Social skills, and the bottom column is for Physical skills. The right side features a menu with tabs for Skills, Mood, Outfit, Classes, Log, and Menu.

**Social + 0.000**

Royal Demeanor	- 2.00
Composure	0.0
Elegance	0.0
Presence	0.0

**Intellectual + 0.125**

History	- 2.00
Novan	0.0
Foreign Affairs	0.0
World	0.0

**Intrigue** + 1.00

Internal Affairs	0.0
Foreign Intelligence	0.0
Ciphering	0.0

**Physical + 0.000**

Agility	+ 0.00
Dance	0.0
Reflexes	0.0
Flexibility	0.0

**Economics \*** - 0.75

Accounting	82.6
Trade	36.0
Production	36.0

**Military** + 1.00

Strategy	0.0
Naval Strategy	0.0
Logistics	0.0

**Mystical + 0.030**

Faith	+ 0.30
Meditation	0.0
Divination	15.0
Lore	15.0

**Lumen** + 1.00

Sense Magic	0.0
Resist Magic	0.0
Wield Magic	0.0

**Current mood:** Willful

Week 7

Skills

Mood

Outfit

Classes

Log

Menu



# Ren'Py is powerful

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## Long Live the Queen



Credit: Hanako Games

# Ren'Py is powerful

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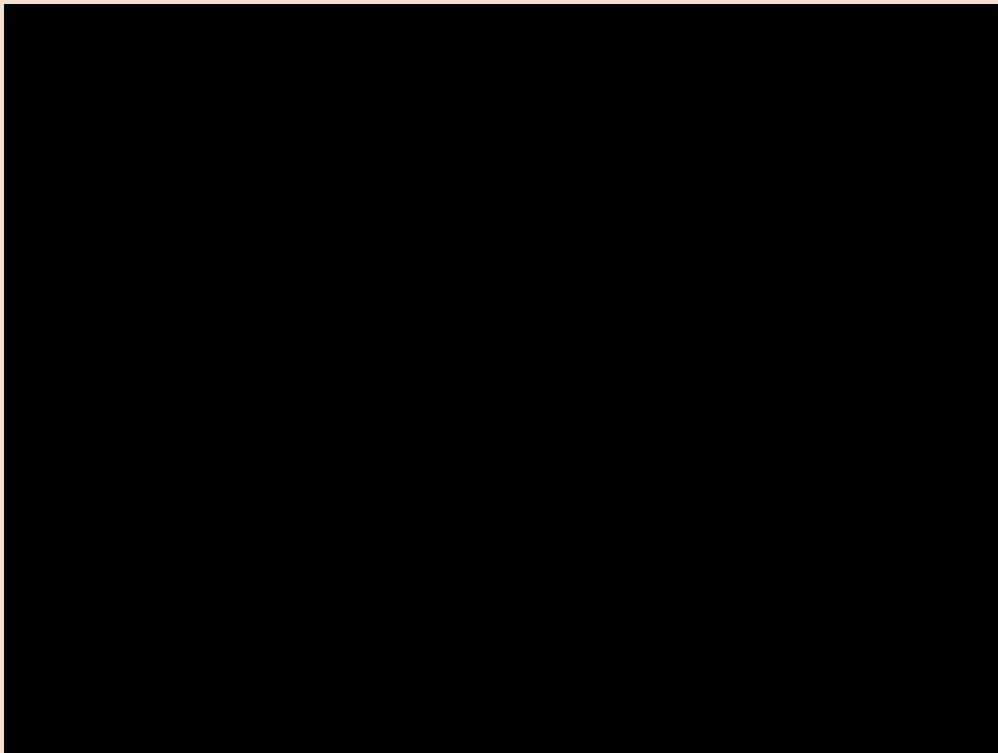
Highway Blossoms

- Ren'Py 3D

*Credit: Studio Élan*

# Ren'Py is flexible - screen customization

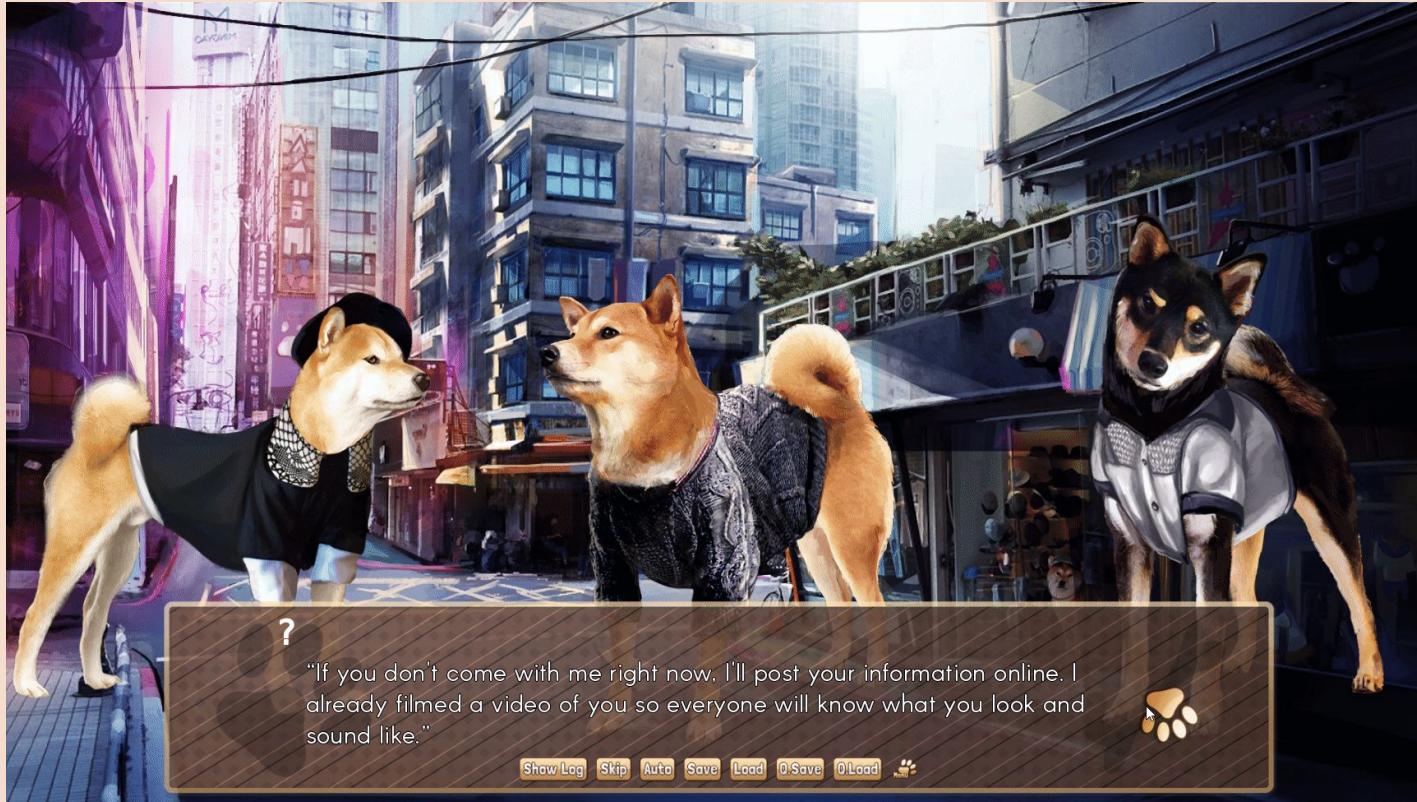
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Video:  
npckc - a hero and a garden

# Ren'Py is flexible

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# Ren'Py is flexible

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```
import random
import time

class MenuTimer(object):
    start_time = 0.0

    def duration(self):
        return renpy.get_game_runtime() - self.start_time
```

Implement timer of how long player took to make decisions



# Ren'Py is flexible

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```
@property
def verbose(self):
    if renpy.in_rollback():
        return "If only I could turn back time?"
    else:

        d = self.duration()
        return "{} It took me {:.02f} seconds. {}".format(
            random.choice(
                ["Hmm.", "Interesting...", "Woah.", "Wonderful.",
                 "Strange.", "Huh."]))
```

Generates dialogue by randomly selecting and combining phrases



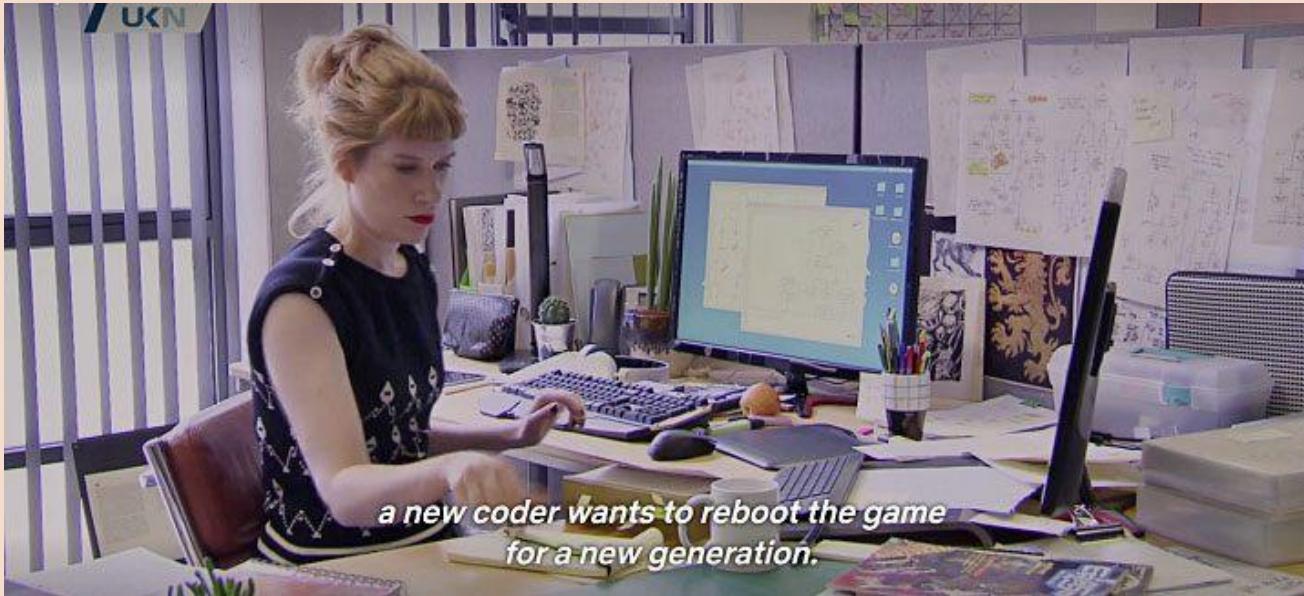
# Ren'Py is flexible

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# Ren'Py is flexible

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You could easily remake Netflix's Bandersnatch in Ren'Py.

(Its creator used Twine, a popular tool in the VN community, to code the script)

# Your imagination's the limit with Ren'Py

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“I can't make a high production quality visual novel!”

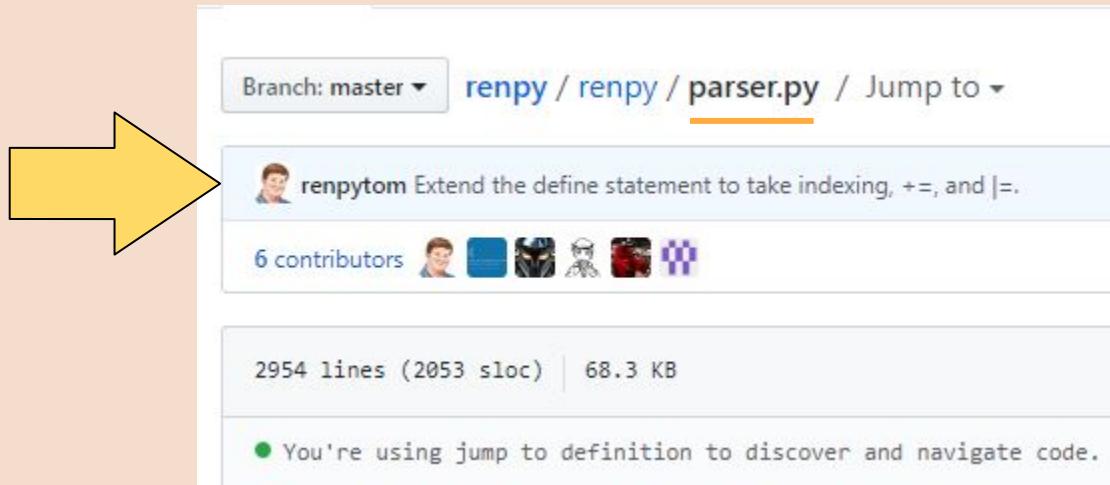
Low budget dev  
+ Ren'Py



# You only have to learn Ren'Py once

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- New programmer friendly
- Flexible for seasoned devs
- Thank you RenPyTom, your vision did come true



# WIP - Card selector screen

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# A Summer With The Shiba Inu



Now go make your story-driven game!



Contact me



@quill\_studios



Susan Shu Chang

[susanshu.com](http://susanshu.com)



A Summer With The  
**Shiba Inu**

