# Python Django Training - Rush 00

## Moviemon

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*Summary: This is the subject of rush00 Python-Django pool.*

# Contents

# Chapter I

# Instructions

- Only this page serve as a reference: Do not fi rm the hallway noise.

- The subject can change up to an hour before rendering.

- If no contrary information is explicitly present, you should assume that the versions of languages and frameworks used are (or later):

  ◦ Python 3
  ◦ HTML5
  ◦ CSS 3
  ◦ Javascript EM6
  ◦ Django 1.9
  ◦ psycopg2 2.6

- Unless otherwise indicated in the subject, the fi les in python each year on
  **Python one (d01, d02 and d03) must have their end block if __name__ == '__main__': in order to insert the** entry point in the case of a program, or tests in the case of a module.

- Unless otherwise indicated in the subject, each year days on
  **Django will have its own application in the project to make for reasons peda- gogiques.**

- The exercises are precisely ordered from simple to more complex. In no event shall we bear no attention or take into account a complex exercise if a simpler exercise is not very successful.

- Attention to the rights of your fi les and your directories.

- You must follow the rendering process for all your exercise: only the present work on your GIT repository will be evaluated in defense.

- Your exercises will be evaluated by your pool mates.

- You should leave in your repertoire no other fi le than those explicitly speci fi ed by the forward drills.

- Unless otherwise specified in the topic you should not include in your rendering:

- The files __ pycache__.

- Any migration.
  Warning, you are still advised to make the fi le migration / __ init__.py,
  it is not necessary, but simplifies the construction of migration. Do not add this fi le will not invalidate
  your rendering but you *must* be able to manage migration for correction in this case.

- **The file created by the command collectstatic of manage.py ( with the way the value of the variable STATIC_ROOT).**

- The fi le Python bytecode (fi les with extension. pyc).

- database fi les (especially with sqlite).

- Any fi le or folder must or can be created by the normal behavior of the rendering work.

**It is recommended that you modify your. gitignore in order to avoid accidents.**

- When you need to get an accurate output in your programs, it is of course forbidden to a ffi expensive
  output precalculated instead of performing the exercise cor- rectly.

- You have a question ? Ask your neighbor to the right. Otherwise, try your left neighbor.

- **Your reference manual called Google / man / Internet / ....**

- Think discuss on the forum of your pool Intra!

- Read the examples carefully. They might require things that are not otherwise specified in the subject ...

- Please, by Thor and Odin! Re fl échissez dammit!

# chapter II

# Specific Rules of the day

- The interpreter double use is python3

- The roads on an application must be defined in a file urls.py
  found in the record of this application.

- Each page has ffi chée must be properly formatted (presence of a doctype, tags couples html, body, head) Correct
  management of special characters, not a ffi weird chage.

- The server used for this rush is the default Django development server included with the utility manage.py.

- Only explicitly requested URLs must return an error page. Thus, if only / ex00 is requested / ex00foo should
  return a 404 error.

- You must make a file requirement.txt (via pip freeze) containing bookshops ries needed to run your project.

# Chapter III

# Preamble

Some quotes from the movie Be Kind Rewind with Jack Black ( source ):



figure III.1 - The video store.

Jerry: *I am Robocop. Anything you say can and will be Held against you in a court of Robocop.*

- - - - - - - - -

Jerry: *I will shoot you, and I know karate robot.*

- - - - - - - - -

Jerry: *Saying I'm not your uncle is illerate, maybe he just needs to go to Nightschool.*

- - - - - - - - -

Jerry: *I Was going to make you into the next Marilyn Monroe! Goal! Now you're just going to be .... Laundry girl!*

- - - - - - - - -

Jerry: *Hey, hey, do not put your shoes in the refrigerator ... 'cause they'll get cold!*

- - - - - - - - -

Mike: (holding the Ghost Busters tape) *I'll be Bill Murray and you'll be everyone else.*

- - - - - - - - -

Jerry: [ *sung, poorly, to the tune of the Ghostbusters theme song] When you're walkin 'down the street ...*

Jerry: [ *singing] ... and you see a little ghost ...*

Jerry: [ *singing] ... whatcha gonna do about -*

Jerry: *Ghostbusters?*

Mike: *What? What is that?*

Jerry: *That's the Ghostbusters theme song.*

Mike: *No.*

Jerry: *I'm pretty sure it is.*

- - - - - - - - -

Alma: *Are you in love with me?*

Mike: *Huh?*

Alma: *Mm-hm.*

Mike: *Well, how do I know that?*

Alma: *You know you're in love with a person When You talk to em for a minimum of 20 minutes a day in your head.*

Mike: *What if I talk to a guy in my head for 20 minutes? That What would mean?*

Alma: *You're in love with Jerry.*

- - - - - - - - -

*Your name it, we shoot it*

- - - - - - - - -

*Sometimes the best movies are the ones we make up*

# chapter IV

# mandatory part

## IV.1 Introduction - FAQ

This rush to aim to make you encode a small single-player game with a web interface.

What is the purpose of this game?
This game is called MovieMon and its purpose is to capture all Moviemons hiding on a game board by using Movieballs.

That tells me something, it does not look like ...?
I do not know what you mean.

What is Moviemon?
A Moviemon is a film available on IMDB. Ideally a film Monster.

How do you get a Moviemon?
Throwing him a movieball see!. The IMDB rating of Moviemon match his strength. A high rating makes Moviemon more di ffi cult to catch a low rating. The strength of the player, which is the number of Moviemons in his possession, increases the chances of catching.

How is a typical new part?
When a player starts a new game, the game application on IMDB all films required before sending the 'Worldmap', the main page of the game. On this page, the player moves freely and cheerfully from box to box on a grid of fixed size. Random boxes on which he walks, he harvests movieballs, or uncovers a Moviemon.

When he uncovers a Moviemon, if it feels that its chances, the player tries to cap- turer.

It gives him a movieball, missed a second, missed a third, caught! The player then consults its fi proudly Moviedex which lists all Moviemons captured, before returning to hunt for all catch them! !

## IV.2 instructions

### IV.2.1 Settings

You must add to your project settings that of the game itself, namely:

• The size of the grid. This must be a minimum of ten squares tall and ten squares wide.

• The player's starting position in this grid

• The names or IDs of at least ten films on IMDB queryable. You must use these settings in

your code. You can add other settings if you wish.

> The rating of a film corresponds to its strength. So remember to balance your game by taking enough good and bad films. For example: at least three with score less than four score and three with more than seven

> The API IMDB is rather obscure, you can use OMDB Which is an unofficial API.

## IV.2.2 game data

You will need to retain data between di ff erent pages at a scéance game. A typical website would use cookies, or a system of server side ses- sion. But here there is no question of typical website.

You will need to store the data summarizing the state of the current game in a file to be created in your project.

This fi le is not a backup for the player he used to store the state of the current game. It should not contain any **logic and its contents must be stored in binary thanks to the bookstore pickle ( included with Python).**

So you must also create your project in the logic needed to update and use of this fi le that should contain the following information:

- The player's position on the map.

- **Number of Movieballs possessed.**

- **The names (or identifiers) of all Moviemons of Moviedex.**

- **Full details of all Moviemons of the game, as obtained on**
  IMDB.

## IV.2.3 Data Management

You must also create a class Python . Whose mission is to manage the dataset This class must contain at minimum the following methods:

- 'Load': load game data passed as parameters in the class instance. Returns the current instance.


- 'Dump': Returns the data set.

- 'Get_random_movie': Returns a random among the Moviemon Moviemons uncaptured.

- 'Load_default_settings': load game data in the class instance from the settings. Request and store the details of all Moviemons sure IMDB. Returns the current instance.


- 'Get_strength': Returns the strength of the player.

- 'Get_movie': Returns a dictionary Python containing all the details from the name of Moviemon passed as a parameter to make your page Detail.

You can add to this class all methods and attributes as necessary.

> It will never be asked to change "by hand" or delete that file or any backup file during the game in defense.

## IV.2.4 Aesthetics game

The a ffi chage the game will naturally on your browser via the HTML and CSS.
You do not have permission to use Javascript.

The a ffi chage of the game is divided into two parts which must be visually distinct perfectly:

- Screen: A ffi che what happens in the game. No interaction is possible at this point that should never contain any link or form.

- Controls : Located below or on either side of the screen, they can interact with the game and are contextual, ie they change compor- of charge depending on the state of the game.

  This also means that they are not necessarily all assets systematically. However, even inactive, they must be visible and keep the same place permanently.

  There must be eight 'buttons':

  ◦ Four directions, such as one might find on a directional pad Joystick: Up, Right, Down, Left

  ◦ A button select.

  ◦ A button start.

  ◦ A button AT

  ◦ A button B

You do not have permission to add / remove 'buttons' nor a ffi expensive infor- mation, apart from the name of 'buttons' in this area.

Beyond this minimum distinction, aesthetics does not matter in the par- tie compulsory subject.

The behavior of buttons for each view is described in the next section.

> A 'button' is not necessarily an HTML tag <> button. A 'button' inactive can be a dead link, an image, a text, or a special character.

## IV.2.5 Pages

You must create pages / views / behaviors listed if after. A 'button' men- tioned not a page is a 'button' inactive. Moreover, if the destination is not specified for a check is that it returns the same page, potentially amended.

TitleScreen

- Description: Welcome Screen

- Display: Must a ffi expensive the name of the game and the A - New Game 'and' B - Load '.

- Url: the base, plus shipping domain.

- Controls:

    ◦ AT : Link to the page Worldmap.
      Before a ffi expensive one, the fi le contains the information of the current part must be reset with the **paramêtres Settings and the Moviemons**
      must be queried again.

    ◦ B: link to Load

worldmap

- Description: card game, where the character moves, recovers movieballs and flushes the Moviemons.

- Screen: A grid whose size is that defined in the settings. On the box corre- sponding to the current position of the player must find a representation (image, character, etc ...) clearly identi fi able character. The screen also has a ffi expensive:

    ◦ Number of movieballs.

    ◦ A message when movieball is found.

    ◦ Message when Moviemon is flushed out and an indication of the but- ton to lean to begin capturing.]

- url: '/ Worldmap'

- controls:
    ◦ directions: Each department must move the character one square in the same direction. The player must not get out of the map. Each movement has a chance to flush a Moviemon or to harvest movieball.

      If a Moviemon is flushed out, one is chosen at random from Moviemons

still not captured.

- ◦ AT : Only if a Moviemon is flushed: page link Battle the fight against this Moviemon.

- ◦ start: link to Option.

- ◦ select: link to Moviedex.

> ⚠️  Refresh this page does not change the position of the character on the card.

Battle

- Description: Try to capture the Moviemon you flushed!

- URL: '/ Battle / <moviemon_id>. < moviemon_id> is replaced by the ti fi er of identical Moviemon fight whatsoever.

- Screen: A ffi che poster and strength Moviemon, number of movieballs in stock, the strength of the player and the chance of success rate (see below). If captured, you must also expensive ffi a sentence like "You catched it" to mark the event.

  On failure of a launch, you have a ffi expensive in the same way a phrase like "You missed!" ". As long as Moviemon is not captured, the screen also has a ffi expensive A - Launch movieball.

  In all cases, you need a ffi expensive than the 'button' B back to the Worldmap.

- controls:
  - ◦ AT : Throws movieball

  If the player does not, the action has no e ff ect (you can a ffi expensive on the screen a mockery of sentence from the enemy).

  Otherwise, the number of movieball is decreased by one and a lucky roll is made as to whether the Moviemon is captured or not. The chance to rate C is calculated as follows:

  C = 50 - (monster strength * 10) + (5 * player's strength) and 1 <= C <= 90

For example :

For a powerhouse and a force 8.2 Player 2: C = 50-82 + 10 = -22

This monster is thus 1% chance of having caught. For a powerhouse and a

force 5 player 8: C = 50-50 + 40 = 40

This monster is thus 40% chance of being caught. For a powerhouse and a

force 2 player 14 C = 50-20 + 70 = 100

**This monster is thus 90% chance of being caught. If successful, the Moviemon is captured and stored in the MovieDex. The A button becomes inactive.**

On failure, the player can raise as much movieballs it has.

- ◦ **B: Back to worldmap**

Moviedex

- **Description: List of Moviemons captured. It should be possible to select a film to access the details of it.**

- **URL: '/ Moviedex'**

- **Display: Must be present on the screen all the posters Moviemons captured. The AF selected fi che shall** be marked with a distinctive graphical element, for example by wrapping a blue border.

You also add A - More Information 'and' select - Back '.

- controls:
  - ◦ **directions: Directions to select a film diff erent. You must use at least two directions: left and right or up** and down.

  - ◦ **select: Link to the page worldmap**

  - ◦ **AT : Link to the page Detail of Moviemon selected.**

> Default arriving on the page, the first film in the list is selected.

Detail

- Description: Detail of a moviemon.

- URL: '/ Moviedex / <moviemon>' < moviemon> should be replaced by the identifier of the Moviemon.

- Display: Must a ffi dear name, the poster, the film director, year, rating, synopsis and players Moviemon and 'B - Back'

- Controls:
  ◦ B Button: Link to the page Moviedex

Option

- Description: The game options.

- URL: '/ Options'

- Screen: A ffi che game options, which are A - Save ',' B - Quit 'and' start - cancel '

- controls:
  ◦ Start Button: Link to the page Worldmap.

  ◦ Button: Link to the page Save.

  ◦ B Button: Link to the page TitleScreen.

Save

- Description: Allows you to save a game in progress in one of the three slots available.

- URL: / Options / save_game

- Screen: should a ffi expensive three slots: 'Slot A' 'Slot B' and 'C Slot.

  A selected slot shall be marked with a distinctive graphical element, for example by preceding it with an arrow.

  If a slot is empty, it must be followed by 'Free'. Otherwise, it must be followed by the number of Moviemons captured.

  For example: 'Slot A: 2/15' means that this backup contains a portion in which two Moviemons fifteen were

  captured. The screen also has a ffi expensive A - Save 'and' B - Cancel '

- controls:
  ◦ directions: Directions 'high' and 'low' must be used to select a slot.

    ◦ AT : Copy the fi le contains the current state of the game in another fi le that must be stored in a folder 'saved_game' in your project. The name of the fi le must be 'slot <n> _ <score> .mmg. <N> is to replace with the name of slot 'a', 'b' or 'c' and <score> should be replaced by the score of the game.

    For example: slotb_1_15.mmg. (Please, do not try to put a slash in a fi le name).

    ◦ B: Link to the page Option

Load

- Description: Allows you to load a saved among three slots.

- URL: / Options / load_game

- Screen: should a ffi expensive three slots: 'Slot A' 'Slot B' and 'C Slot.

  A selected slot shall be marked with a distinctive graphical element, for example by preceding it with an arrow.

  **If a slot is empty, it must be followed by 'Free'. Otherwise, it must be followed by the number of Moviemons captured.**

  **For example: 'Slot A: 2/15' means that this backup contains a portion in which two Moviemons fifteen were** captured. The screen also has a ffi expensive A - Load 'and' B - Cancel '.

  Once a part is loaded A - Load 'should be replaced with' A - start game '

- directions: Directions 'high' and 'low' must be used to select a slot.

- AT :
  If no game is loaded. Copies the contents of the file corresponding to the slot selected in the fi le that stores **the current state of the game if a part has been charged, the 'button' is used to link to the page Worldmap.**

  Trying to load a slot 'Free' must obviously have no e ff ect.

- B: Link to the page TitleScreen

# Chapter V Part

# Bonus

Once your required part perfectly realized, you can implement additional functionality in order to earn bonus points.

For your checker sees these features as successful, you will have to convince their good achievement.

An unhandled error invalidate the functionality in question.

Only under the bonus, the use of Javascript is tolerated as long as the latter does not affect the operation of the compulsory part (which must work without JavaScript). The AJAX or Websockets are not allowed.

Here are some bonus ideas you could implement:

- Make your site look like a game console (see examples):

    ◦ The screen should look like to be a real console screen.

    ◦ The controls of your game to be superimposed on images of real controls mimicking a games console.

- In the current state of the game, it is perfectly possible to guess the address of a fight and catch the monsters without having to search. Create a system of token di ffi cult or impossible to guess, associated with Moviemons,

    to use in the URL in order to prevent cheating.

- Match the controls to the keyboard in order to avoid having to use the mouse to play.

- In order to vary the game, made that each new part load selected diff E- monsters pension.

- Add variety to the worldmap with a radar which has the ffi che Moviemons / moviballs available on adjacent squares to the player's position.

# chapter VI

## Rendering and peer-assessment

**You must make a project Django perfectly configured.**

Apart from what is imposed on you in the subject, you are free to organize the project as you wish.

No server error will be tolerated. Test out the behavior of your views. You must provide a file requirement.txt containing all the necessary libraries to run your project.

Django automatically returns a 404 page if the input URL was not found. You might come across cases where Django is a URL and receive, but your logic is wrong. In this case, consider using "raise Http404 ( 'my message')" in your views.

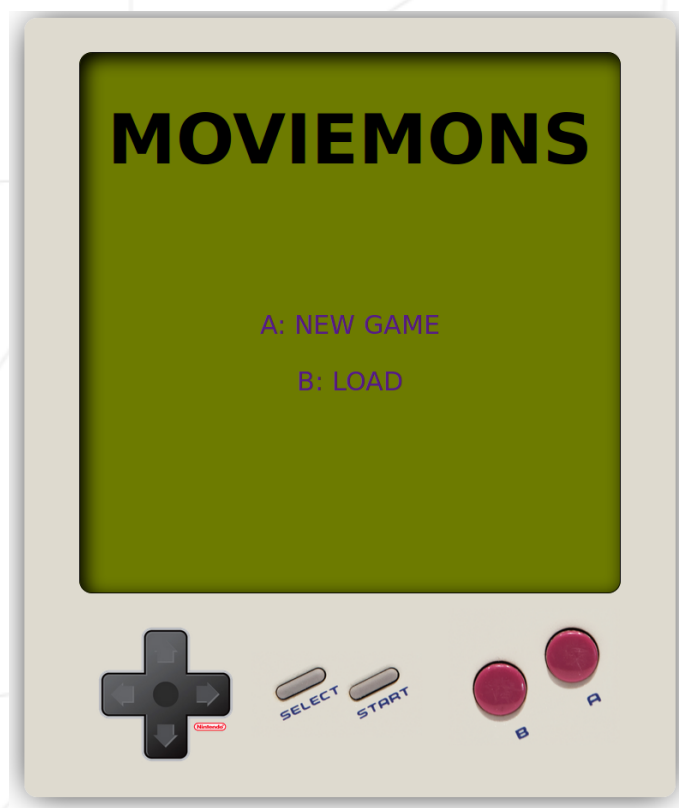# chapter VII

# Example Rendering



figure VII.1 - Your titlescreen Could look like that

figure VII.2 - This game Moviemon Appears to happen in Belgium