



Podstawy automatyzacji testów z Selenium

Agenda

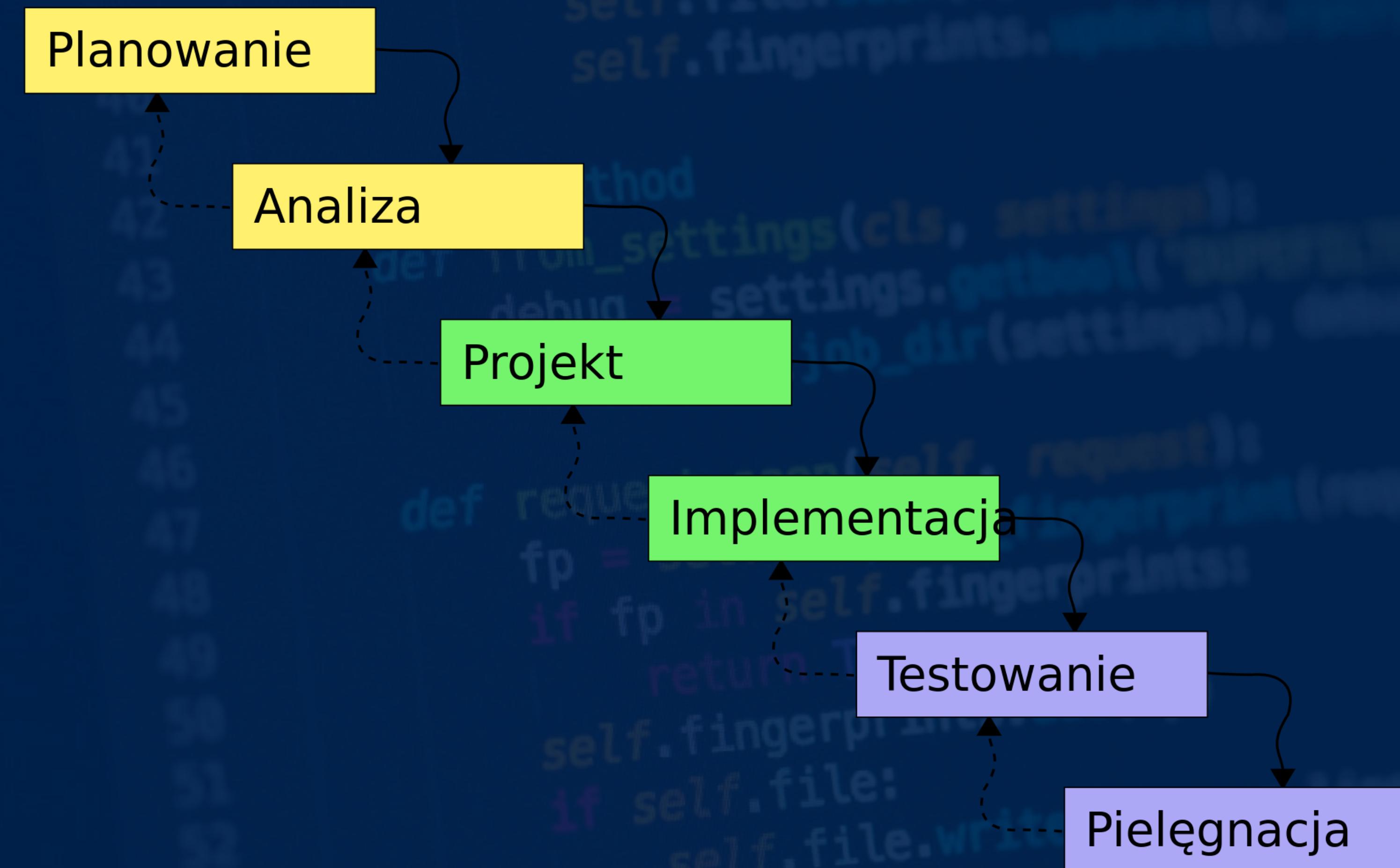
- 01 Część teoretyczna - słuchaj uważnie.
- 02 Część praktyczna - czas na ćwiczenia.
- 03 Higiena testów i podsumowanie.

Miejsce dla automatyzacji w procesie testów w procesie wytwórzania oprogramowania

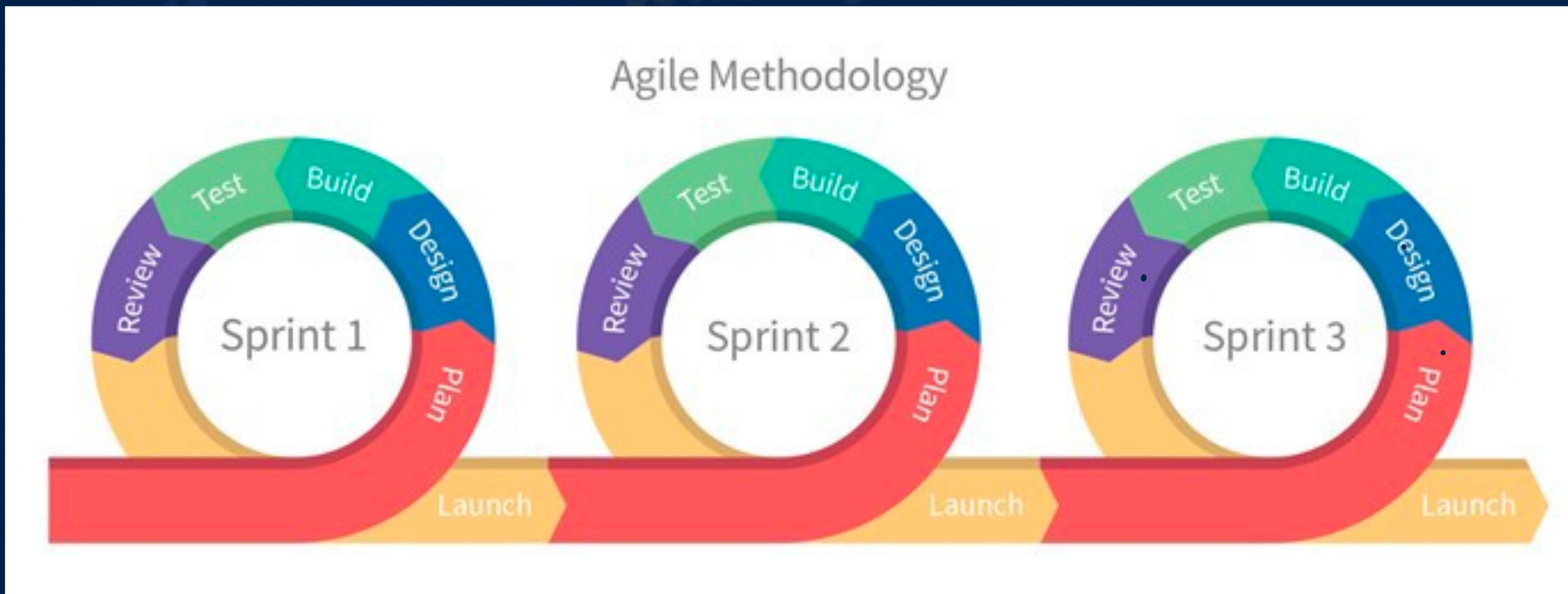
```
def request_fingerprint(self, fp):
    fp = self.request_fingerprint
    if fp in self.fingerprints:
        return True
    self.fingerprints.add(fp)
    if self.file:
        self.file.write(fp + os.linesep)
    return False

def request_fingerprint(self, request):
    return request_fingerprint(request)
```

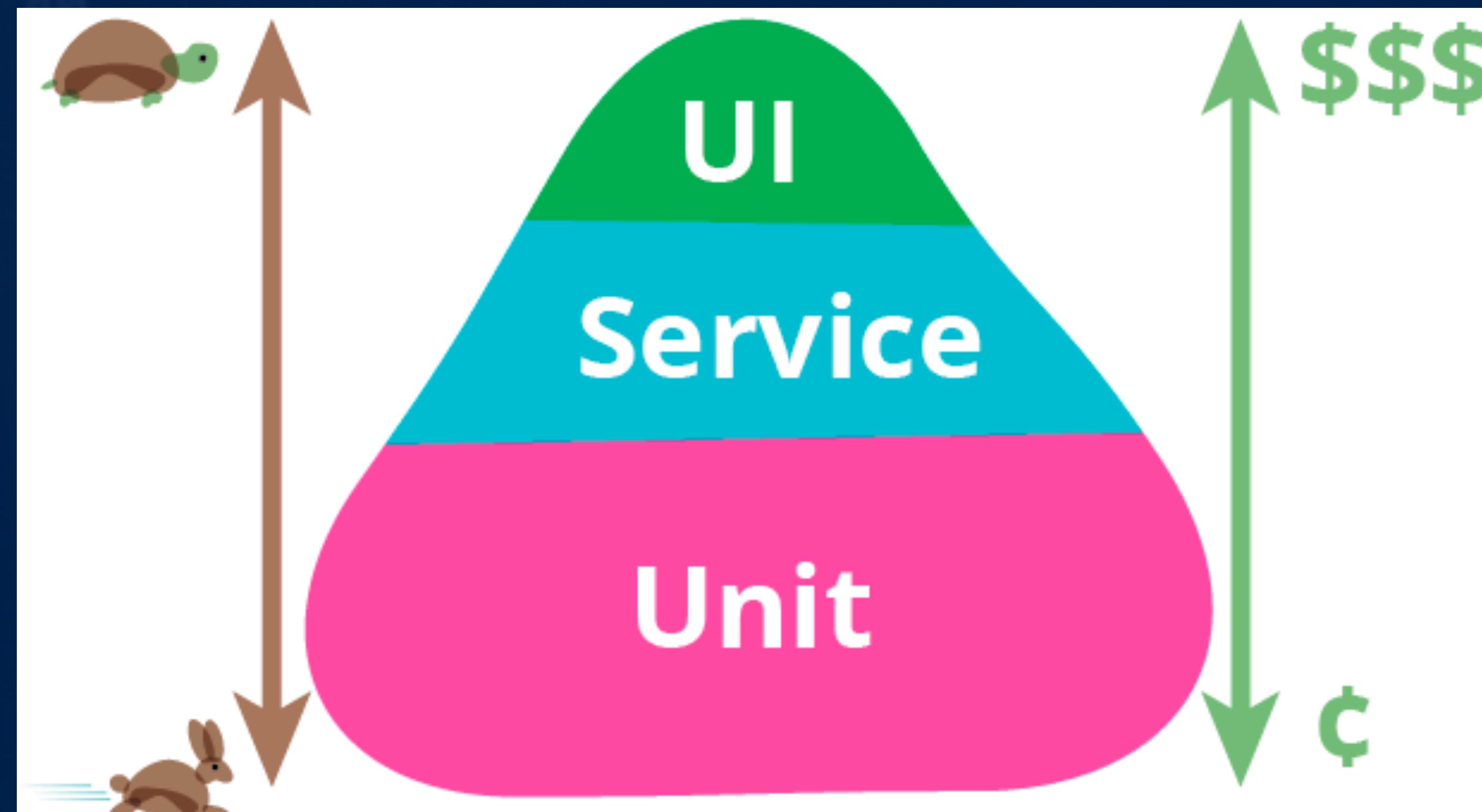
Proces kaskadowy



Proces zwinny



Piramida testów



Poznanie przeciwnika - jak strony są reprezentowane w przeglądarce?

```
def request_fingerprint(self, request):
    fp = self.request_fingerprint(request)
    if fp in self.fingerprints:
        return True
    self.fingerprints.add(fp)
    if self.file:
        self.file.write(fp + os.linesep)
```

Document Object Model

Document Object Model

```
<html>
  <head>
    <meta charset="utf-8">
  </head>
  <body>
    <section>
      <article>
        <h1>Title</h1>
        <p>Lorem ipsum</p>
        <button>I like it!</button>
      </article>
    </section>
  </body>
</html>
```

```
<html>
  <head>
    <meta charset="utf-8">
  </head>
  <body>
    <section>
      <article>
        <h1>Title</h1>
        <p>Lorem ipsum</p>
        <button>I like it!</button>
      </article>
    </section>
  </body>
</html>
```

The screenshot shows a web page with four distinct horizontal sections, each containing a card-like element with rounded corners and a shadow. The sections have different background colors: blue, orange, light blue, and white. Each card contains text and a button.

- Blue Section:** Contains the word "Title" and the text "Lorem ipsum". Below this is a button labeled "I like it!". A dark callout bubble at the bottom right of the card displays the text "article | 346 x 93.72".
- Orange Section:** Contains the word "Title" and the text "Lorem ipsum". Below this is a button labeled "I like it!". A dark callout bubble at the bottom right of the card displays the text "h1 | 346 x 22".
- Light Blue Section:** Contains the word "Title" and the text "Lorem ipsum". Below this is a button labeled "I like it!". A dark callout bubble at the bottom right of the card displays the text "p | 346 x 18".
- White Section:** Contains the word "Title" and the text "Lorem ipsum". Below this is a button labeled "I like it!". A dark callout bubble at the bottom right of the card displays the text "button | 53.39 x 18".

Breadcrumbs Collector

Acquiring knowledge one crumb at a time

ABOUT AUTHOR

/ COOKIE POLICY



Is your test suite wasting your time?

This article has been originally included in a PyconPL 2018 conference book. Abstract Nowadays there is no need for convincing anyone about the enormous advantages of writing automated tests for their code. Many developers had an occasion to feel total...

[Continue Reading →](#)

I am writing a book!

You might be wondering why lately there is not much activity on the blog. Frankly, I am currently fully involved in another writing project, namely I am writing a book on the Clean Architecture! Book will be called Implementing Clean...

[Continue Reading →](#)

⌚ 2018/08/01

💬 0

Implementing Event Sourcing in Python – part 4, efficient read model with projections

This post is a part of Implementing Event Sourcing series. It consists of code snippets, thoughts and practical advice how to implement ES in your own project. The contents of this post will probably make the most sense if you...

[Continue Reading →](#)

Breadcrumbs Collector

Acquiring knowledge one crumb at a time

div.navigation.section.no-padding.bg-dark | 1440 × 68

ABOUT AUTHOR

/ COOKIE POLICY



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your time?

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Implementing Event Sourcing
in Python – part 4, efficient
read model with projections

Breadcrumbs Collector

Acquiring knowledge one crumb at a time



div.post-container | 441.8 x 526.983

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⌚ 2018/08/26 💬 0

I am writing a book!

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[Continue Reading →](#)

⌚ 2018/08/01 💬 0

Implementing Event Sourcing

Inspecto Konsola Debugger »

Szukaj w kodzie HTML

```
style="background-image: url(https://breadcrumbscollector.tech/wp-content/themes/baskerville/images/header.jpg);">...</div>
<!--/header-->
► <div class="navigation section no-padding bg-dark">...</div>
<!--/navigation-->
► <div class="mobile-navigation section bg-graphite no-padding hidden" style="display: none;">...</div>
<!--/mobile-navigation-->
▼ <div class="wrapper section medium-padding">
  ▼ <div class="content section-inner">
    ▼ <div class="posts" style="position: relative; height: 2560.67px;">
      ▼ <div class="post-container" style="position: absolute; left: 0px; top: 0px;">
        ► <div id="post-298" class="post-298 post type-post status-publish format-standard hentry category-python category-testing-software">...</div>
        <!--/post-->
      </div>
      ▼ <div class="post-container" style="position: absolute; left: 441px; top: 0px;">...</div>
      ▼ <div class="post-container" style="position: absolute; left: 441px; top: 474px;">...</div>
      ▼ <div class="post-container" style="position: absolute; left: 0px;">
        <!--/inner -->
        <div .posts > div.post-container > div#post-298.post.type-post.sta...
        ▽ Filtruj style + .cls □ Układ Wyliczone Animacje
        ▽ Filtruj style □ Style przeglądarki
        ▷ background-attachment scroll
        ▷ background-clip border-box
        ▷ background-color ○rgb(255, 255, 255)
        ▷ background-image none
        ▷ background-origin padding-box
        ▷ background-position 0% 0%
        ▷ background-position-x 0%
        ▷ background-position-y 0%
        ▷ background-repeat repeat
        ▷ background-size
```

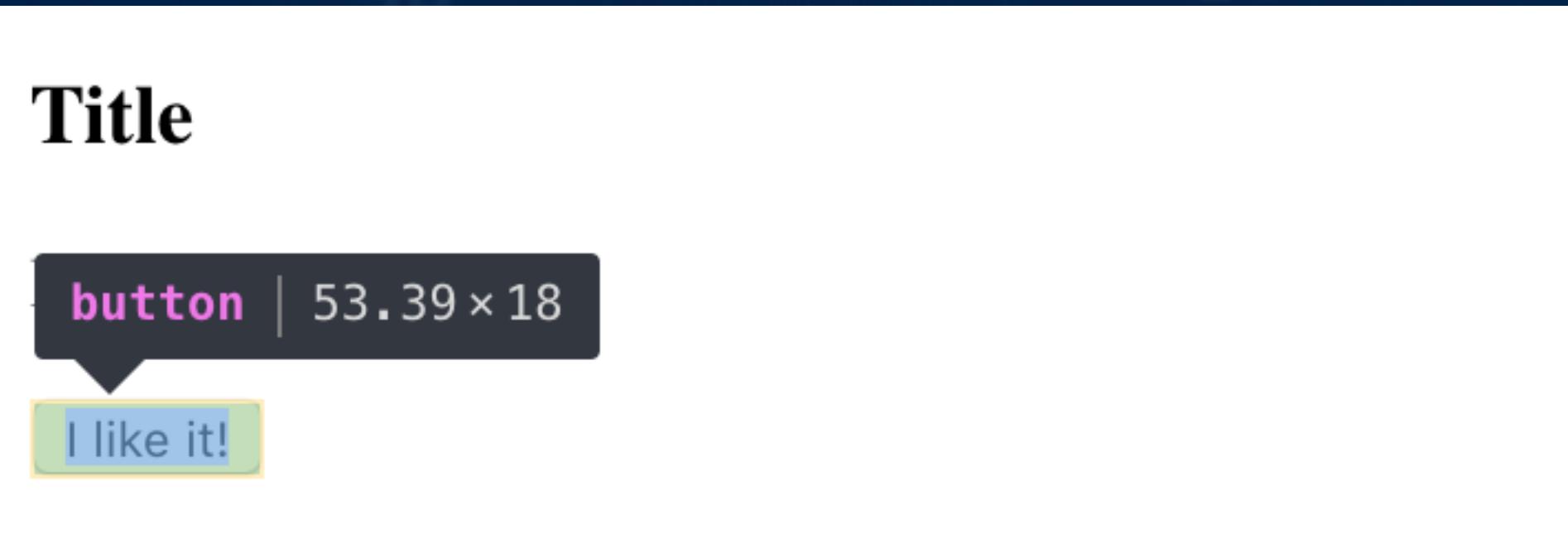
Poznanie własnej broni - jak działa Selenium?

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```

```
@classmethod  
def from_settings(settings):  
    debug = settings.getboolean("DEBUG")  
    return cls(job_directory=settings["JOBDIR"],  
               browser=settings["BROWSER"],  
               headless=settings["HEADLESS"],  
               proxy=settings["PROXY"],  
               timeout=settings["TIMEOUT"],  
               max_retries=settings["MAX_RETRIES"],  
               log_level=logging.DEBUG if debug else logging.INFO)
```

Selenium operuje na poziomie DOM

<button>I like it!</button>



element.click()

```
<input placeholder="login">
```



```
element.send_keys("python")
```

Skąd wziąć ten element?

```
def request_fingerprint(self, request):
    fp = self.request_fingerprint
    if fp in self.fingerprints:
        return True
    self.fingerprints.add(fp)
    if self.file:
        self.file.write(fp + os.linesep)
```



```
def request_fingerprint(self, request):
    return request_fingerprint(request)
```

```
from selenium import webdriver  
  
driver = webdriver.Chrome()  
driver.get("http://www.python.org")  
  
element = driver.find_element_by_*  
elements = driver.find_elements_by_*
```

button | 53.39 × 18

I like it!

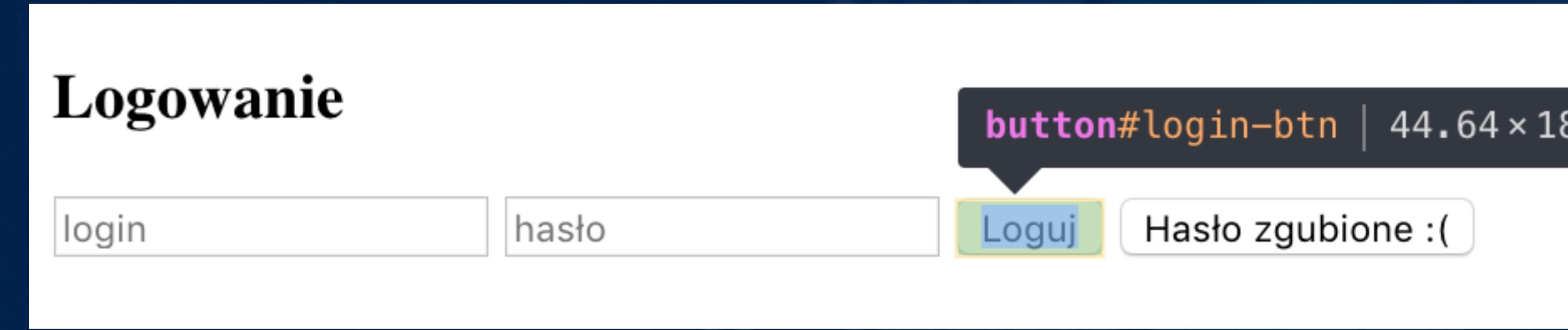
```
element = driver.find_element_by_name('button')
```

```
element = driver.find_element_by_id("login-btn")
```



```
element = driver.find_element_by_css_selector(  
    „h2.post-title”
```

```
)
```



```
element = driver.find_element_by_xpath(  
    „/html/body/section/article/input[1]”  
)
```



CSS selector

[element_tag_name][#id][.class_name]

CSS selector

a | 269 x 57

Is your test suite wasting
your time?

This article has been originally included in
a PyconPL 2018 conference book.

Abstract Nowadays there is no need for
convincing anyone about the enormous

The screenshot shows a portion of a web page's source code in the browser's developer tools. The code includes comments like `` and ``. A context menu is open over an anchor tag (), with the following options visible:

- Add attribute
- Edit attribute
- Edit as HTML
- Delete element
- Copy
- Hide element
- Force state
- Break on
- Expand recursively
- Collapse children

The "Copy" option is highlighted in blue. To the right of the main menu, a secondary submenu is open with the following options:

- Cut element
- Copy element
- Paste element
- Copy outerHTML
- Copy selector
- Copy XPath

Podsumowanie

driver.find_element_by*
+ element.click()
+ element.send_keys("string")

Opis testów w języku Python - unittest i assertje

```
def request_fingerprint(self, request):
    fp = self.request_fingerprint(request)
    if fp in self.fingerprints:
        return True
    self.fingerprints.add(fp)
    if self.file:
        self.file.write(fp + os.linesep)
```



```
def request_fingerprint(self, request):
    return request_fingerprint(self, request)
```

```
class WorkshopTests(unittest.TestCase):  
    # 35  
    # 36  
    def setUp(self):  
        self.driver = webdriver.Chrome() # 1  
    # 37  
    def tearDown(self):  
        self.driver.quit() # 2  
    # 38  
    @classmethod  
    def from_settings(cls, settings):  
        debug = settings.getbool('BROWSE_JOB_DEBUG')  
        return cls(job_debug=debug)  
    # 39  
    def test_blog_post_has_the_same_title_as_link(self):  
        # Arrange  
        self.driver.get("http://breadcrumbscollector.tech/")  
        # Act  
        element = self.driver.find_element_by_css_selector("h2.post-title")  
        link_title = element.text  
        element.click()  
        # Assert  
        assert link_title in self.driver.page_source
```

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```

Cześć praktyczna

<https://github.com/python-lodz/selenium-workshop>

Proste interakcje z stroną internetową

Zadania 1 i 2

Radzenie sobie z dynamicznymi
stronami ładującymi treść w trakcie

Zadanie 3


```
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38
from selenium.webdriver.common.by import By
from selenium.webdriver.support.ui import WebDriverWait
from selenium.webdriver.support import expected_conditions

element = WebDriverWait(self.driver, 3).until(
    expected_conditions.element_to_be_clickable(
        (By.CLASS_NAME, 'c-autocomplete__item')
    )
)
element.click()
```

Radzenie sobie z dynamicznymi
stronami ładującymi treść w trakcie

Zadanie 3

Page Object Pattern



```
class LoginPage:  
    LOGIN_INPUT = '#login'  
    PASSWORD_INPUT = '#password'  
    LOGIN_BTN = '#login-btn'  
  
    def __init__(self, driver):  
        self.driver = driver  
  
    def login(self, login, password):  
        login_input = self.driver.find_element_by_css_selector(self.LOGIN_INPUT)  
        login_input.send_keys(login)  
        password_input = self.driver.find_element_by_css_selector(  
            self.PASSWORD_INPUT  
        )  
        password_input.send_keys(password)  
        login_btn = self.driver.find_element_by_css_selector(self.LOGIN_BTN)  
        login_btn.click()
```

```
class WorkshopTests(unittest.TestCase):  
    # 33  
    # 34  
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    def setUp(self):  
        self.driver = webdriver.Chrome() # 1  
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Page Object Pattern

Zadanie 4

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Podstawy pisania czystego kodu
