Testing Report

Title: Report on Testing the API of the Game of Thrones Character Website

Date: September 11, 2023

General Summary

The report provides a detailed description of the process of testing the "Game of Thrones API v2" using the Swagger documentation available at

https://thronesapi.com/swagger/index.html?urls.primaryName=Game%20of%20Thrones%20AP https://thronesapi.com/swagger/index.html?urls.primaryName=Game%20of%20Thrones%20AP https://thronesapi.com/swagger/index.html?urls.primaryName=Game%20of%20Thrones%20AP https://thronesapi.com/swagger/index.html?urls.primaryName=Game%20of%20Thrones%20AP https://thronesapi.com/swagger/index.html?urls.primaryName=Game%20of%20Thrones%20AP https://thronesapi.com/swagger/index.html?urls.primaryName=Game%20of%20Thrones%20AP https://thronesapi.com/swagger/index.html?urls.primaryName=Game%20of%20Thrones%20AP https://thronesapi.com/swagger/index.html https://thronesapi.com/swagger/ind

The report consists of a series of tests that cover various aspects of the API, including retrieving character data, data consistency based on ID search, character affiliations with families, accuracy of full character names, checking photo pathways and modifying character data by sending POST requests.

Testing the Status Code of GET Requests and Displaying Character Data

```
# test the status code of a GET request
     def test_get_request_status_code():
10
       response = requests.get("https://thronesapi.com/api/v2/Characters")
         if response.status_code == 200:
         print("Success! Status code is 200")
12
         else:
       print(f"Error! Status code is {response.status_code}")
16
     # display character profiles
17 ∨ def character_profiles():
         response = requests.get("https://thronesapi.com/api/v2/Characters").json()
         for character in response:
20
             character_profile = (
                "ID:", character["id"],
                 "FIRST NAME:", character["firstName"],
                "LAST NAME:", character["lastName"],
                 "FULL NAME:", character["fullName"],
25
                 "TITLE:", character["title"],
                 "FAMILY:", character["family"],
                 "IMAGE:", character["image"],
                 "IMAGE URL:", character["imageUrl"]
30
             print(character_profile)
```

Screenshot 1:

Creating a Function to Send GET Requests and Display Character Data

• Description: The screenshot shows function definitions for sending GET requests and displaying character profile data.

The status code of the GET request is 200; the test has passed.

Testing Character Data Consistency Based on ID Search

Screenshot 2:

Creating a Function to Verify Data Consistency Through ID-based Character Searches

• Description: The screenshot displays the definition of a function for testing the consistency of character data by comparing data obtained through the API for all characters collectively and data for individual characters based on ID search.

Data for all characters is consistent; the test has passed.

Testing Character Data

Screenshot 3:

Creating a Function for Character Data Testing

• Description: The screenshot displays the definition of a function for testing character data, which outputs if any specific character data is missing.

Screenshot 4:

The Outcome of Executing the Character Data Testing Function

Description: The screenshot shows the result of running the character data testing function. The character
with ID 30 is missing the last name data, while the character with ID 48 is missing the first name and family
data.

The test did not pass.

Testing Full Character Names

```
# test character full names
      def test character full names():
           response = requests.get("https://thronesapi.com/api/v2/Characters").json()
80
           for character in response:
                first_name = character["firstName"].strip()
last_name = character["lastName"].strip()
full_name = character["fullName"].strip()
86
                if first_name and last_name and full_name != f"{first_name} {last_name}":
87
88
                     print(f"ID: {character['id']}")
89
                     print(f"First Name: {first_name}")
                     print(f"Last Name: {last_name}")
90
                     print(f"Full Name: {full_name}")
                     print("Status: INCORRECT")
print("-" * 30)
```

Screenshot 5:

Creating a Function for Full Character Name Testing

• Description: The screenshot displays the definition of a function for testing full character names, which is based on API documentation and constructs the full name of a character by combining their first name and last name.

```
The output is:
First Name: CateyIn
Last Name: Stark
Full Name: Catelyn Stark
Status: INCORRECT
ID: 11
First Name: Robb
Last Name: Stark
Full Name: Rob Stark
Status: INCORRECT
First Name: Sandor
Last Name: Clegane
Full Name: The Hound
Status: INCORRECT
ID: 19
First Name: Varys
Last Name: Unknown
Full Name: Varys
Status: INCORRECT
First Name: Ygritte
Last Name: None
Full Name: Ygritte
Status: INCORRECT
```

ID: 23 First Name: Brienne Last Name: Tarth Full Name: Brienne of Tarth Status: INCORRECT ID: 24 First Name: Missandei Last Name: None Full Name: Missandei Status: INCORRECT ID: 25 First Name: Gilly Last Name: None Full Name: Gilly Status: INCORRECT ID: 26 First Name: Viserys Last Name: Targaryan Full Name: Viserys Targaryn Status: INCORRECT ID: 29 First Name: Daario Last Name: Naharis Full Name: Daario Status: INCORRECT -----ID: 40 First Name: Melisandre Last Name: The Red Woman Full Name: Melisandre Status: INCORRECT ID: 47 First Name: Wylis Last Name: Hodor Full Name: Hodor Status: INCORRECT ID: 51

The test did not pass.

First Name: Qyburn
Last Name: Grand Maester
Full Name: Qyburn
Status: INCORRECT

Testing Character Family Belonging Data

```
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```

Screenshot 6:

Definition of Excluded and Correctly Spelled Families

• Description: The screenshot displays the definition of excluded families (family names that need to be excluded from the search due to inconsistent definitions when there is no available family data) and correctly spelled family names (family names without spelling errors).

Screenshot 7:

Definition of Auxiliary Functions for Formatting and Correcting Spelling Errors in Family Names

Description: The screenshot shows the definition of auxiliary functions for formatting (a function used due to
inconsistent definitions of known families, as is the case with "House Stark") and correcting spelling errors in
family names.

Screenshot 8:

Definition of the Main Function for Testing Character Family Belonging

Description: The screenshot displays the definition of the main function for testing character family belonging. This function includes the initialization of a counter and a set to prevent duplicate results. Subsequently, spelling errors are corrected and all family formats without data are extracted from the results, while known families are grouped into a unique format. The output includes a list of all families with statistics on character belonging. Additionally, the function includes an auxiliary function that highlights result headings for better readability.

The output is: Families: 1. Targaryen: 3 2. Seaworth: 1 3. Lorath: 2 4. Baelish: 1 5. Free Folk: 2 6. Greyjoy: 3 7. Lannister: 5 8. Tarly: 1 9. Naharis: 1 10. Clegane: 1 11. Bronn: 1 12. Viper: 1 13. Stark: 10 14. Sand: 1 15. Mormont: 2 16. Bolton: 2 17. Naathi: 1 18. Sparrow: 1 19. Qyburn: 1 20. Worm: 1 21. Baratheon: 5 22. Tarth: 1 23. Tyrell: 2 **Character Statistics:** _____ Total characters: 53 Characters without a family: 1 Characters with excluded families: 3 Total characters without a family or with excluded families: 4 Total characters with a family (excluding excluded families): 49 Character Family Affiliations: Daenerys Targaryen belongs to the Targaryen family Samwell Tarly belongs to the Tarly family Jon Snow belongs to the Stark family Arya Stark belongs to the Stark family Sansa Stark belongs to the Stark family Brandon Stark belongs to the Stark family Ned Stark belongs to the Stark family Robert Baratheon belongs to the Baratheon family Jamie Lannister belongs to the Lannister family Cersei Lannister belongs to the Lannister family Catelyn Stark belongs to the Stark family Rob Stark belongs to the Stark family Theon Greyjoy belongs to the Greyjoy family Joffrey Baratheon belongs to the Lannister family Tyrion Lannister belongs to the Lannister family The Hound belongs to the Clegane family Petyr Baelish belongs to the Baelish family

Davos Seaworth belongs to the Seaworth family Stannis Baratheon belongs to the Baratheon family

Khal Drogo belongs to the Targaryen family

Varys has no family affiliation

Margaery Tyrell belongs to the Tyrell family Ygritte belongs to the Free Folk family Brienne of Tarth belongs to the Tarth family Missandei belongs to the Naathi family Gilly has no family affiliation Viserys Targaryn belongs to the Targaryen family Rickon Stark belongs to the Stark family Roose Bolton belongs to the Bolton family Daario belongs to the Naharis family Shae belongs to the Lorath family Tommen Baratheon belongs to the Baratheon family Gendry Baratheon belongs to the Baratheon family Jorah Mormont belongs to the Mormont family Robert Baratheon belongs to the Baratheon family Ramsey Bolton belongs to the Bolton family Talisa Stark belongs to the Stark family Jeor Mormont belongs to the Mormont family The High Sparrow belongs to the Sparrow family Oberyn Martell belongs to the Viper family Melisandre has no family affiliation Jagen H'ghar belongs to the Lorath family Tywin Lannister belongs to the Lannister family Ellaria Sand belongs to the Sand family Tormund Giantsbane belongs to the Free Folk family Yara Greyjoy belongs to the Greyjoy family Euron Greyjoy belongs to the Greyjoy family Hodor belongs to the Stark family Pycelle has no family affiliation Grey Worm belongs to the Worm family Olenna Tyrell belongs to the Tyrell family Qyburn belongs to the Qyburn family Lord Bronn belongs to the Bronn family

The test did not pass.

Testing Photo Path Verification

```
# test image paths
      def test_image_paths():
          # fetch character data from the API
          character_data = requests.get("https://thronesapi.com/api/v2/Characters").json()
          for character_info in character_data:
              character_id = character_info["id"]
              image path = character info["imageUrl"]
168
169
              # check if the image path exists before sending a request
170
              if requests.head(image_path).status_code == 200:
                  response = requests.get(image_path)
174
                  if response.status_code == 200:
                      print(f"Character ID: {character_id} - Image Path: {image_path} - Status Code: {response.status_code}")
                  else:
                      print(f"Character ID: {character_id} - Image Path: {image_path} - Status Code: {response.status_code} (Error)")
              else:
                  print(f"Character ID: {character_id} - Image Path: {image_path} - Does not exist")
```

```
Character ID: 0 - Image Path: https://thronesapi.com/assets/images/daenerys.jpg - Status Code: 200
Character ID: 1 - Image Path: https://thronesapi.com/assets/images/sam.jpg - Status Code: 200
Character ID: 2 - Image Path: https://thronesapi.com/assets/images/jon-snow.jpg - Status Code: 200
Character ID: 3 - Image Path: https://thronesapi.com/assets/images/arya-stark.jpg - Status Code: 200
Character ID: 4 - Image Path: https://thronesapi.com/assets/images/sansa-stark.jpeg - Status Code: 200
Character ID: 5 - Image Path: https://thronesapi.com/assets/images/bran-stark.jpg - Status Code: 200
Character ID: 6 - Image Path: https://thronesapi.com/assets/images/ned-stark.jpg - Status Code: 200
Character ID: 7 - Image Path: https://thronesapi.com/assets/images/robert-baratheon.jpeg - Status Code: 200
Character ID: 8 - Image Path: https://thronesapi.com/assets/images/jaime-lannister.jpg - Status Code: 200
Character ID: 9 - Image Path: https://thronesapi.com/assets/images/cersei.jpg - Status Code: 200
Character ID: 10 - Image Path: https://thronesapi.com/assets/images/catelyn-stark.jpg - Status Code: 200
Character ID: 11 - Image Path: https://thronesapi.com/assets/images/robb-stark.jpg - Status Code: 200
Character ID: 12 - Image Path: https://thronesapi.com/assets/images/theon.jpg - Status Code: 200
Character ID: 13 - Image Path: https://thronesapi.com/assets/images/joffrey.jpg - Status Code: 200
Character ID: 14 - Image Path: https://thronesapi.com/assets/images/tyrion-lannister.jpg - Status Code: 200
Character ID: 15 - Image Path: https://thronesapi.com/assets/images/the-hound.jpg - Status Code: 200
Character ID: 16 - Image Path: https://thronesapi.com/assets/images/littlefinger.jpg - Status Code: 200
Character ID: 17 - Image Path: https://thronesapi.com/assets/images/davos-seaworth.png - Status Code: 200
Character ID: 18 - Image Path: https://thronesapi.com/assets/images/stannis.jpg - Status Code: 200
Character ID: 19 - Image Path: https://thronesapi.com/assets/images/varys.jpg - Status Code: 200
Character ID: 20 - Image Path: https://thronesapi.com/assets/images/khal-drogo.jpg - Status Code: 200
Character ID: 21 - Image Path: https://thronesapi.com/assets/images/margaery-tyrell.jpg - Status Code: 200
Character ID: 22 - Image Path: https://thronesapi.com/assets/images/ygritte.jpg - Status Code: 200
Character ID: 23 - Image Path: https://thronesapi.com/assets/images/brienne-tarth.jpeg - Status Code: 200
Character ID: 24 - Image Path: https://thronesapi.com/assets/images/missandei.jpeg - Status Code: 200
Character ID: 25 - Image Path: https://thronesapi.com/assets/images/gilly.jpg - Status Code: 200
Character ID: 26 - Image Path: https://thronesapi.com/assets/images/viserys-targaryan.jpg - Status Code: 200
Character ID: 27 - Image Path: https://thronesapi.com/assets/images/rickon.jpg - Status Code: 200
Character ID: 28 - Image Path: https://thronesapi.com/assets/images/roose-bolton.jpg - Status Code: 200
Character ID: 29 - Image Path: https://thronesapi.com/assets/images/daario.jpg - Status Code: 200
Character ID: 30 - Image Path: https://thronesapi.com/assets/images/shae.jpg - Status Code: 200
Character ID: 31 - Image Path: https://thronesapi.com/assets/images/tommen.jpg - Status Code: 200
Character ID: 32 - Image Path: https://thronesapi.com/assets/images/gendry.jpg - Status Code: 200
Character ID: 33 - Image Path: https://thronesapi.com/assets/images/jorah-mormont.jpg - Status Code: 200
Character ID: 34 - Image Path: https://thronesapi.com/assets/images/king-robert.jpg - Status Code: 200
Character ID: 35 - Image Path: https://thronesapi.com/assets/images/ramsey-bolton.jpg - Status Code: 200
Character ID: 36 - Image Path: https://thronesapi.com/assets/images/talisa-stark.jpg - Status Code: 200
Character ID: 37 - Image Path: https://thronesapi.com/assets/images/lord-commander-mormont.jpg - Status Code: 200
Character ID: 38 - Image Path: https://thronesapi.com/assets/images/the-high-sparrow.jpg - Status Code: 200
Character ID: 39 - Image Path: https://thronesapi.com/assets/images/red-viper.jpg - Status Code: 200
Character ID: 40 - Image Path: https://thronesapi.com/assets/images/melisandre.jpg - Status Code: 200
Character ID: 41 - Image Path: https://thronesapi.com/assets/images/jaqen-hghar.jpg - Status Code: 200
Character ID: 42 - Image Path: https://thronesapi.com/assets/images/tywin-lannister.jpg - Status Code: 200
Character ID: 43 - Image Path: https://thronesapi.com/assets/images/ellaria-sand.jpg - Status Code: 200
Character ID: 44 - Image Path: https://thronesapi.com/assets/images/tormund-giantsbane.jpg - Status Code: 200
Character ID: 45 - Image Path: https://thronesapi.com/assets/images/yara-greyjoy.jpg - Status Code: 200
Character ID: 46 - Image Path: https://thronesapi.com/assets/images/euron-greyjoy.jpg - Status Code: 200
Character ID: 47 - Image Path: https://thronesapi.com/assets/images/hodor.jpg - Status Code: 200
Character ID: 48 - Image Path: https://thronesapi.com/assets/images/pycelle.jpg - Status Code: 200
Character ID: 49 - Image Path: https://thronesapi.com/assets/images/greyworm.jpg - Status Code: 200
Character ID: 50 - Image Path: https://thronesapi.com/assets/images/olenna-tyrell.jpg - Status Code: 200
Character ID: 51 - Image Path: https://thronesapi.com/assets/images/qyburn.jpg - Status Code: 200
Character ID: 52 - Image Path: https://thronesapi.com/assets/images/bronn.jpg - Status Code: 200
```

Screenshot 9:

Creating a Function to Test Photo Path

• Description: The screenshot displays the definition of a function for testing photo paths, which outputs an appropriate message depending on the results.

Screenshot 10:

Outcome of the Photo Path Testing Function

• Description: The screenshot shows the result of the photo path testing function. The status code for all photo paths is 200.

The test has passed.

Testing Character Data Modification Using POST Requests

```
GOT_POST_Data_Modification.py > ...
     import requests
     path = "https://thronesapi.com/api/v2/Characters"
         "id": "1",
"firstName": "New_first_name",
          "lastName": "New_last_name",
          "fullName": "New_full_name",
 9
19
          "title": "New_title",
         "family": "New_family",
"image": "New_image",
12
          "imageUrl": "https://thronesapi.com/assets/images/new_image_path.jpg"
14
16
     # sending a POST request with data
     post_response = requests.post(path, json=data) # Setting the request body in JSCN format
18
     print("\nStatus code of the POST request is:", post_response.status_code)
19
28
     # checking the status code for the POST request
      if post_response.status_code == 200:
         print("Data added successfully via a POST request.")
      else:
     print("POST request encountered an error with status code:", post_response.status_code)
     # sending an empty POST request
27
     empty_post_response = requests.post(path)
     print("Status code of the empty POST request is:", empty_post_response.status_code)
29
     # checking the status code for the empty POST request
39
     if empty_post_response.status_code == 200:
32
      print("Empty POST request succeeded.")
     else:
33
34
         print("Empty POST request encountered an error with status code:", empty_post_response.status_code)
     # sending a GET request to retrieve data about the character with ID 1
     get_response = requests.get(f"{path}/1")
     # checking the status code for the GET request
40
     if get_response.status_code == 200:
         print("Response to the GET request is:", get_response.json())
          # checking if the character data has been updated
          if get_response.json() == data:
45
            print("Data has been successfully updated.\n")
46
          else:
47
             print("Data has not been updated.\n")
48
      else:
         print("GET request did not succeed.\n")
49
```

Screenshot 11:

Creating a Function for Modifying Character Data with POST Requests

Description: The screenshot displays the definition of a function for modifying character data using POST requests. The function also tests the status code of GET and POST requests without a body, as well as the result of any data changes.

The output is:

```
The status code of the POST request is: 200
Data was added successfully via a POST request.
The status code of the empty POST request is: 415
Empty POST request encountered an error with status code: 415
Response to the GET request is: {'id': 1, 'firstName': 'Samwell', 'lastName': 'Tarly', 'fullName': 'Samwell Tarly', 'title': 'Maester', 'family': 'House Tarly', 'image': 'sam.jpg', 'imageUrl': 'https://thronesapi.com/assets/images/sam.jpg'}
Data has not been updated.
```

The test did not pass.