GRAYMATICS

Cognitive Multimedia Analytics

GRAYMATICS VISTA API MANUAL

Overview

Every customer will be given credentials to access the Graymatics VISTA server.

Sample Credentials given to customers:

Server name: https://vista.graymatics.com

Username: perumal

Password: GMTC4perumal

Subscription: Object,theme,food,tags

The subscriptions refer to Graymatics models that are made available to the customer.

REST APIs Supported

1. GET /api/v1/user

Return currently authenticated user details including user's subscription information

Sample Usage:

```
import requests

requests.get('https://vista.graymatics.com/api/v1/user',

        auth=('perumal ', 'GMTC4perumal ')).json()
```

Sample Result:

```
{
    "id": 4,
    "username": "perumal ",
    "email": "",
    "subscriptions": "face,fashion,themes"
}
```

2. POST /api/v1/sync

Upload an image and process that image.

Fields:

- upload : image file
- subscriptions : str

Sample Usage:

```python
import requests

with open('/path/to/image', 'rb') as f:

    requests.post('https://vista.graymatics.com /api/v1/sync',

            auth=('perumal ', 'GMTC4perumal '),

            files={'upload': f},

            data={'subscriptions': 'face,fashion'}

            ).json()
```

Sample Result:

```json
{
    "image": "/media/perumal /1.jpg",
    "results": {
        "face": {},
        "fashion": [
            {
                "confidence": 0.99954,
                "class": "person",
                "boundingBox": {
                    "top": 842,
                    "left": 1327,
                    "width": 561,
                    "height": 757
                },
                "objectId": "0",
                "deep_fashion_color": {
                    "color": [
                        {
                            "confidence": 0.9317,
                            "label": "black"
                        }
                    ]
                },
                "deep_fashion_pattern": {
                    "pattern": [
                        {
```

```json
                    "confidence": 0.999,
                    "label": "embellished"
                }
            ]
        },
        "deep_fashion_tf": {
            "neck_design": [
                {
                    "confidence": 0.7803,
                    "label": "RuffleSemi-HighCollar"
                }
            ],
            "sleeve_length": [
                {
                    "confidence": 0.972,
                    "label": "ExtraLongSleeves"
                }
            ],
            "neckline_design": [
                {
                    "confidence": 0.7666,
                    "label": "Invisible"
                }
            ],
            "collar_design": [
                {
                    "confidence": 0.903,
                    "label": "Shirt"
                }
            ],
            "pant_length": [
                {
                    "confidence": 0.8497,
                    "label": "ShortPant"
                }
            ],
        }
    },
],
"themes": {
    "deep_themes": {
        "themes": [
            {
                "confidence": 0.7622,
                "label": "market"
            }
        ]
```

```json
            }
          }
        },
      "errors": {
        "face": {
         "deep_mtcnn": "ConnectionError: Cannot connect to deep_mtcnn"
         },
        "fashion": {},
        "themes": {}
      },
   }
```

3. POST /api/v1/async

Upload a zipped file of images and process it asynchoronously. Use **Operation** below to retrieve the json file after some time using the id value sent in the result of this operation.

Fields:

- upload : zipped file
- subscriptions : str

Sample Usage:

```python
import requests

with open('/path/to/zip', 'rb') as f:

    requests.post('https://vista.graymatics.com /api/v1/async',

            auth=('perumal ', 'GMTC4perumal '),

            files={'upload': f},

            data={'subscriptions': '{subscriptions}'}

            ).json()
```

Sample Result:

```json
   [
     {
       "id": 20,
       "upload": 890,
       "subscriptions": "face,fashion,themes",
       "timestamp": "2018-11-05T17:06:08.655351+08:00"
     },
     {
       "id": 21,
       "upload": 891,
```

```
            "subscriptions": "face,fashion,themes",
            "timestamp": "2018-11-05T17:06:08.818384+08:00"
        }
    ]
```

4. GET /api/v1/operation

Retrieve result from an Operation. It is necessary to use the id that was returned as a result of the post async operation.

get operation is used with **post async** submissions and the results returned will be in the same format as **post sync**.

Sample Usage:

```
import requests

requests.get('https://vista.graymatics.com/api/v1/operation/{id}',

        auth=('perumal ', 'GMTC4perumal ')).json()
```

Sample Result:

```
{
    "image": "/media/perumal /1.jpg",
    "results": {
        "face": {},
        "fashion": [
            {
                "confidence": 0.99954,
                "class": "person",
                "boundingBox": {
                    "top": 842,
                    "left": 1327,
                    "width": 561,
                    "height": 757
                },
                "objectId": "0",
                "deep_fashion_color": {
                    "color": [
                        {
                            "confidence": 0.9317,
                            "label": "black"
                        }
                    ]
                },
                "deep_fashion_pattern": {
                    "pattern": [
```

```
                    {
                        "confidence": 0.999,
                        "label": "embellished"
                    }
                ]
            },
            "deep_fashion_tf": {
                "neck_design": [
                    {
                        "confidence": 0.7803,
                        "label": "RuffleSemi-HighCollar"
                    }
                ],
                "sleeve_length": [
                    {
                        "confidence": 0.972,
                        "label": "ExtraLongSleeves"
                    }
                ],
                "neckline_design": [
                    {
                        "confidence": 0.7666,
                        "label": "Invisible"
                    }
                ],
                "collar_design": [
                    {
                        "confidence": 0.903,
                        "label": "Shirt"
                    }
                ],
                "pant_length": [
                    {
                        "confidence": 0.8497,
                        "label": "ShortPant"
                    }
                ],
            }
        },
    ],
    "themes": {
        "deep_themes": {
            "themes": [
                {
                    "confidence": 0.7622,
                    "label": "market"
                }
```

```
                ]
            }
          }
        },
       "errors": {
          "face": {
           "deep_mtcnn": "ConnectionError: Cannot connect to deep_mtcnn"
           },
          "fashion": {},
          "themes": {}
        },
      }
```

API Response Format

```
{
   "image": "[path/to/image]",
   "results": {
      "[name of subscription]": [
         {
            "boundingBox": {
               "width": [boundingBox coordinate],
               "top": [boundingBox coordinate],
               "height": [boundingBox coordinate],
               "left": [boundingBox coordinate]
            },
            "objectId": [objectId],
            "faceLandmarks": {
               "left_eye": {
                  "y": [y coordinate],
                  "x": [x coordinate]
               },
               "mouth_left": {
                  "y": [y coordinate],
                  "x": [x coordinate]
               },
               "nose": {
                  "y": [y coordinate],
                  "x": [x coordinate]
               },
               "mouth_right": {
                  "y": [y coordinate],
                  "x": [x coordinate]
               },
               "right_eye": {
                  "y": [y coordinate],
                  "x": [x coordinate]
```

```
                    }
                },
                "[name of classifier 1]": {
                    "[classification 1]": [
                        {
                            "confidence": [confidence],
                            "label": "[label]"
                        },
                        {
                            "confidence": [confidence],
                            "label": "[label]"
                        },
                        {
                            "confidence": [confidence],
                            "label": "[label]"
                        }
                    ]
                }
            }
        ]
    },
    "errors": {
        "face": {}
    },
    "subscriptions": {
        "[name of subscription]": {
            "detector": "[name of detector]",
            "classifier": [
                "[name of classifier 1]"
            ]
        }
    }
}
```

API Response Example

This example json was generated by processing an image with a face:

```
{
    "image": "/media/GraymaticsFashion/BlackSquare1200x1563.jpg",
    "results": {
        "face": [
            {
                "boundingBox": {
                    "width": 79,
                    "top": 30,
                    "height": 204,
                    "left": 576
```

```
        },
        "objectId": 0,
        "faceLandmarks": {
          "left_eye": {
              "y": 108,
              "x": 599
          },
          "mouth_left": {
              "y": 179,
              "x": 604
          },
          "nose": {
              "y": 142,
              "x": 619
          },
          "mouth_right": {
              "y": 171,
              "x": 640
          },
          "right_eye": {
              "y": 102,
              "x": 637
          }
        },
        "deep_face": {
          "age": [
            {
                "confidence": 0.6535,
                "label": "Adult"
            },
            {
                "confidence": 0.1803,
                "label": "YoungAdult"
            },
            {
                "confidence": 0.1125,
                "label": "MiddleAge"
            }
          ],
          "gender": [
            {
                "confidence": 0.9777,
                "label": "Female"
            },
            {
```

```
        "confidence": 0.0223,
        "label": "Male"
      }
    ],
    "ethnicity": [
      {
        "confidence": 0.5566,
        "label": "Indian "
      },
      {
        "confidence": 0.2004,
        "label": "AsianEast "
      },
      {
        "confidence": 0.1923,
        "label": "Malay"
      }
    ]
  },
  "deep_emotion": {
    "emotion": [
      {
        "confidence": 0.5542,
        "label": "Angry"
      },
      {
        "confidence": 0.1415,
        "label": "Sad"
      },
      {
        "confidence": 0.0968,
        "label": "Happy"
      }
    ]
  },
  "deep_face_wide_attributes": {
    "wideAttributes": [
      {
        "confidence": 0.9925,
        "label": "No_Beard"
      },
      {
        "confidence": 0.9688,
        "label": "Young"
      },
```

```
                {
                    "confidence": 0.2997,
                    "label": "Wearing_Earrings"
                }
            ]
        }
    }
    ]
},
"errors": {
    "face": {}
},
"subscriptions": {
    "face": {
        "detector": "deep_mtcnn",
        "classifier": [
            "deep_face",
            "deep_emotion",
            "deep_face_wide_attributes"
        ]
    }
}
}
```