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**School of Computer Science and Engineering**

**SC2006 Software Engineering**

**Test Case and Test Results**

**Team Members:**

Lee Yen Foong Ernest

Low Zhan Long

Solomon Duke Tneo Yruan Rui

Tey Li Zhang Edmund

Wan Kai Jie

## **Unit Testing**

### **Black Box Testing**

For Black Box Testing we used both equivalence class testing and boundary value testing for the registering and setting up of users.

1. Register and Set Up User

Equivalence Classes and Boundary Values

**Username**

| **Specification** | No spacing  Minimum 6 characters long  Must not be null |
| --- | --- |
| **Valid Equivalence Classes** | edmund562 |
| **Invalid Equivalence Classes** | edmun (5 characters)  edmund 562 (spacing |

**Name**

| **Specification** | Must not be null |
| --- | --- |
| **Valid Equivalence Classes** | Ernest |
| **Invalid Equivalence Classes** | Null input |

**Email Address**

| **Specification** | Requires ‘@’ in email  Requires ‘.com’ in email  Cannot have been used  Cannot be null |
| --- | --- |
| **Valid Equivalence Classes** | user@gmail.com |
| **Invalid Equivalence Classes** | usergmail.com (No @ symbol),  user@gmail (No .com)  [user@gmail.com](mailto:user@gmail.com) (used email) |

**Password**

| **Specification** | Minimum 8 characters  One uppercase  One special characters  One lowercase  One numeric character  Must not be null |
| --- | --- |
| **Valid Equivalence Classes** | P@ssw0rd |
| **Invalid Equivalence Classes** | Null input  P@ssw0r (7 characters)  p@ssw0rd (No uppercase)  Passw0rd (No special case)  P@ssword (No numeric)  P@SSW0RD (No lowercase) |

**Re-enter Password**

| **Specification** | Same input as password  Must not be null |
| --- | --- |
| **Valid Equivalence Classes** | Same input as password |
| **Invalid Equivalence Classes** | Null input  Different input from password |

**Date of Birth**

| **Specification** | Cannot be less than born 10 years ago (As of the current year)  Cannot be more than 100 years ago  Must not be null |
| --- | --- |
| **Valid Equivalence Classes** | 01 Jan 1923  3 Apr 2013 |
| **Invalid Equivalence Classes** | 31 Dec 1899  4 April 2014  Null input |

**Height**

| **Specification** | No negative numbers  Minimum of 90 cm  Maximum of 220 cm  Must not be null |
| --- | --- |
| **Valid Equivalence Classes** | 90, 220 |
| **Invalid Equivalence Classes** | -20  89.9  220.1 |

**Weight**

| **Specification** | No negative numbers  Minimum of 20 kg  Maximum of 400 kg  Must not be null |
| --- | --- |
| **Valid Equivalence Classes** | 20  400 |
| **Invalid Equivalence Classes** | -1  19.9  400.9 |

**Gender**

| **Specification** | Form control - only 3 acceptable values  Male, Female, Others |
| --- | --- |
| **Valid Equivalence Classes** | Male  Female  Others |
| **Invalid Equivalence Classes** |  |

**Phone Number**

| **Specification** | Phone number must be 8 digits  Number must begin with 6, 8 or 9  Must not be null |
| --- | --- |
| **Valid Equivalence Classes** | 61234567  80001234  91234000 |
| **Invalid Equivalence Classes** | 9234  78911234  Null input |

**Profile Picture**

| **Specification** | File must be a picture format  Allow for empty profile page which will use the default picture |
| --- | --- |
| **Valid Equivalence Classes** | Empty file  .jpg file  .png file  .gif file |
| **Invalid Equivalence Classes** | .txt file |

| **Username** | **Name** | **Email Address** | **Password** | **Re-enter**  **Password** | **Date of Birth** | **Height** | **Weight** | **Gender** | **Phone Number** | **Profile Picture** | **Expected Result** | **Test Result** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| edmund562 | Ernest | user@gmail.com | P@ssw0rd | P@ssw0rd | 3 April 2013 | 90 | 20 | Male | 80001234 | empty file | Account created | Account created |
| edmun | Ernest | edmund@gmail.com | P@ssw0rd | Password@123 | 4 Sep 1968 | 100 | 20.1 | Female | 80001234 | jpg file | Username is too short - a minimum of 6 characters. | Username is too short - a minimum of 6 characters. |
| edmund 562 | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 14 Apr 2000 | 110 | 21 | Others | 80001234 | png file | Username must not contain spaces | Username must not contain spaces |
| Null input | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 10 Feb 2001 | 120 | 200 | Male | 61234567 | empty file | No username provided! | No username provided! |
| ernestiscute | Null input | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 19 Sep 1989 | 130 | 100 | Female | 61234567 | jpg file | No name provided! | No name provided! |
| solo588 | Ernest | usergmail.com | P@ssw0rd | P@ssw0rd | 21 Jan 2002 | 140 | 50.5 | Others | 61234567 | png file | Invalid email address | Invalid email address |
| blackknight | Ernest | user@gmail | P@ssw0rd | P@ssw0rd | 1 Dec 1938 | 150 | 60 | Male | 61234567 | empty file | Invalid email address | Invalid email address |
| yellowriver | Ernest | Null input | P@ssw0rd | P@ssw0rd | 31 Jan 1948 | 160 | 70 | Female | 61234567 | jpg file | No password provided! | No password provided! |
| yellowriver | Ernest | user@gmail.com | P@ssw0rd | P@ssw0rd | 31 Jan 1948 | 160 | 70 | Female | 61234567 | jpg file | Email has been used. Please register with another email or login with existing account. | Email has been used. Please register with another email or login with existing account. |
| yell0wpanther | Ernest | edmund@gmai.com | Null input | P@ssw0rd | 10 Aug 1900 | 170 | 80 | Others | 61234567 | png file | No password provided! | No password provided! |
| cptUSA | Ernest | edmund@gmail.com | P@ssw0r | P@ssw0r | 8 Aug 1950 | 180 | 90.6 | Male | 61234567 | empty file | Password is too short - a minimum of 8 characters. | Password is too short - a minimum of 8 characters. |
| KJisCool | Ernest | edmund@gmail.com | p@ssw0rd | p@ssw0rd | 6 Jun 1948 | 190 | 100.6 | Female | 91234000 | jpg file | Password must contain at least one Uppercase, Lowercase, one number and special character | Password must contain at least one Uppercase, Lowercase, one number and special character |
| ThomasTrain | Ernest | edmund@gmail.com | Passw0rd | Passw0rd | 15 Nov 1967 | 200 | 110.1 | Others | 91234000 | png file | Password must contain at least one Uppercase, Lowercase, one number and special character | Password must contain at least one Uppercase, Lowercase, one number and special character |
| WhinnyBear | Ernest | edmund@gmail.com | P@ssword | P@ssword | 2 Aug 2000 | 210 | 120 | Male | 91234000 | empty file | Password must contain at least one Uppercase, Lowercase, one number and special character | Password must contain at least one Uppercase, Lowercase, one number and special character |
| HelloThere | Ernest | edmund@gmail.com | P@SSW0RD | P@SSW0RD | 5 May 2000 | 215 | 330.4 | Female | 91234000 | jpg file | Password must contain at least one Uppercase, Lowercase, one number and special character | Password must contain at least one Uppercase, Lowercase, one number and special character |
| JackTrades | Ernest | edmund@gmail.com | P@ssw0rd | p@ssw0rd | 3 Feb 1984 | 216.5 | 140.9 | Others | 91234000 | png file | Passwords must match | Passwords must match |
| JackTrades | Ernest | edmund@gmail.com | P@ssw0rd | Null input | 3 Feb 1984 | 216.5 | 140.9 | Others | 91234000 | png file | No password provided! | No password provided! |
| BlueBalls | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 31 Dec 1899 | 115 | 150 | Male | 91234000 | empty file | You cannot choose a date before this! | You cannot choose a date before this! |
| BlueWaffle | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 4 April 2014 | 195 | 160 | Female | 91234000 | jpg file | You cannot be younger than 10 years old! | You cannot be younger than 10 years old! |
| BlueWaffle | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | Null input | 195 | 160 | Female | 91234000 | jpg file | Please enter your date of birth | Please enter your date of birth |
| BlueBird | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 9 Mar 2009 | -20 | 170 | Others | 91234000 | png file | Must be at least 90cm | Must be at least 90cm |
| BlueBird | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 7 Oct 1995 | 89.9 | 180 | Male | 91234000 | empty file | Must be at least 90cm | Must be at least 90cm |
| BlueBird | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 7 Jul 1974 | 220.1 | 190.1 | Female | 91234000 | jpg file | Cannot be more than 220 cm | Cannot be more than 220 cm |
| BlueBird | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 7 Jul 1974 | Null input | 190.1 | Female | 91234000 | jpg file | Please enter your height in cm | Please enter your height in cm |
| BlueBird | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 1 Dec 1957 | 201 | 19.9 | Others | 91234000 | png file | Must be at least 20 kg | Must be at least 20 kg |
| BlueBird | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 29 Jan 1978 | 141 | -1 | Male | 91234000 | Empty file | Must be at least 20 kg | Must be at least 20 kg |
| BlueBird | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 29 Jan 1978 | 185.6 | 400.9 | Female | 91234000 | jpg file | Cannot be more than 400 kg | Cannot be more than 400 kg |
| BlueBird | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 29 Jan 1978 | 185.6 | Null input | Female | 91234000 | jpg file | Please enter your weight in kg | Please enter your weight in kg |
| BlueBird | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 29 Jan 1978 | 180 | 80 | Female | 9234 | jpg file | Phone number is not valid | Phone number is not valid |
| BlueBird | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 29 Jan 1978 | 180 | 80 | Female | 78911234 | jpg file | Phone number is not valid | Phone number is not valid |
| BlueBird | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 29 Jan 1978 | 180 | 80 | Female | Null input | jpg file | Please enter your mobile number | Please enter your mobile number |
| BlueBird | Ernest | edmund@gmail.com | P@ssw0rd | P@ssw0rd | 29 Jan 1978 | 190 | 220 | Others | 91234000 | txt file | An error have occurred. Please follow the direction Only accept image files with extension of GIF, JPG, PNG | An error have occurred. Please follow the direction Only accept image files with extension of GIF, JPG, PNG |

### **White Box Testing**

For White Box Testing we use basic path testing for two test cases: Adding Fitness Goals and Registering Users.

1. Adding Fitness Goals

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**Basic Paths**

Path 1 (baseline): 1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16

Path 2: 1, 2, 1

Path 3: 1, 2, 3, 4, 1

Path 4: 1, 2, 3, 4, 5, 6, 7, 6, 8, 10, 12, 14, 16

Path 5: 1, 2, 3, 4, 5, 6, 8, 9, 3, 4, 5, 6, 8, 10, 12, 14, 16

Path 6: 1, 2, 3, 4, 5, 6, 8, 10, 11, 3, 4, 5, 6, 8, 10, 12, 14, 16

Path 7: 1, 2, 3, 4, 5, 6, 8, 10, 12, 13, 3, 4, 5, 6, 8, 10, 12, 14, 16

Path 8: 1, 2, 3, 4, 5, 6, 8, 10, 12, 14, 15, 3, 4, 5, 6, 8, 10, 12, 14, 16

**Test cases**

| **Path** | **Clicked** | **Cancel** | **Missing Information** | **Target Value** | **Current Value** | **Target Date** | **Expected Result** | **Test Result** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | True | False | False | 30 | 20 | 3 Aug 2023 | Fitness Goal Created | Fitness Goal Created |
| 2 | False | False | - | - | - | - | Redirected to Fitness Goal Page | Redirected to Fitness Goal Page |
| 3 | True | True | - | - | - | - | Redirected to Fitness Goal Page | Redirected to Fitness Goal Page |
| 4 | True | False | True | 30 | NULL | 3 Aug 2023 | You must have a current value! | You must have a current value! |
| 5 | True | False | False | -1 | 20 | 3 Aug 2023 | Your target must be positive | Your target must be positive |
| 6 | True | False | False | 30 | -1 | 3 Aug 2023 | Your current must be positive! | Your current must be positive! |
| 7 | True | False | False | 30 | 20 | 3 Aug 2023 | Your Target cannot be in the past | Your Target cannot be in the past |
| 8 | True | False | False | 30 | 20 | 3 Aug 2223 | Your target cannot be more than 100 years | Your target cannot be more than 100 years |

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1. Register users

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**Basic Paths**

Path 1 (baseline): 1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21

Path 2: 1, 2, 3, 4, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21

Path 3: 1, 2, 3, 5, 6, 1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21

Path 4: 1, 2, 3, 5, 7, 8, 1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21

Path 5: 1, 2, 3, 5, 7, 9, 10, 1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21

Path 6: 1, 2, 3, 5, 7, 9, 11, 12, 1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21

Path 7: 1, 2, 3, 5, 7, 9, 11, 13, 14, 1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21

Path 8: 1, 2, 3, 5, 7, 9, 11, 13, 15, 16, 1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21

Path 9: 1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 18, 1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21

Path 10: 1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 19, 20, 1, 2, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21

**Test cases**

| **Path** | **Username** | **Name** | **Email** | **Password** | **Re-enter password** | **Date of Birth** | **Expected Result** | **Test Result** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | edmund562 | Ernest | user@gmail.com | P@ssw0rd | P@ssw0rd | 3 April 2013 | Account Created | Account Created |
| 2 | edmund562 | Null input | user@abc.com | P@ssw0rd | P@ssw0rd | 3 April 2013 | No name provided! | No name provided! |
| 3 | edmund562 | Ernest | user@gmail.com | P@ssw0rd | P@ssw0rd | 3 April 2013 | Email has been used. Please register with another email or login with existing account. | Email has been used. Please register with another email or login with existing account. |
| 4 | edmund 562 | Ernest | user@abc.com | P@ssw0rd | P@ssw0rd | 3 April 2013 | Username must not contain spaces | Username must not contain spaces |
| 5 | edmun | Ernest | user@abc.com | P@ssw0rd | P@ssw0rd | 3 April 2013 | Username is too short - a minimum of 6 characters. | Username is too short - a minimum of 6 characters. |
| 6 | edmund562 | Ernest | usergmail.com | P@ssw0rd | P@ssw0rd | 3 April 2013 | Invalid email address | Invalid email address |
| 7 | edmund562 | Ernest | user@abc | P@ssw0rd | P@ssw0rd | 3 April 2013 | Invalid email address | Invalid email address |
| 8 | edmund562 | Ernest | user@abc.com | P@ssw0r | P@ssw0r | 3 April 2013 | Password is too short - a minimum of 8 characters. | Password is too short - a minimum of 8 characters. |
| 9 | edmund562 | Ernest | user@abc.com | password | P@ssw0r | 3 April 2013 | Password must contain at least one Uppercase, Lowercase, one number and special character | Password must contain at least one Uppercase, Lowercase, one number and special character |
| 10 | edmund562 | Ernest | user@abc.com | P@ssw0rd | Passw0rd | 3 April 2013 | Passwords must match | Passwords must match |

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