Miles & More

Mobile Test Automation Project

Requirement

"Se va scrie un test automatizat, folosind Appium si Java, prin care se va testa partea de inregistrare (Create account) din aplicatia Miles&More
(https://play.google.com/store/apps/details?id=com.plannet.milesandmoreapp).
Se vor testa cat mai multe dintre validarile datelor introduse."

"Write an automated test using Appium and Java that will test the registration section (Create account) from Miles&More application
(https://play.google.com/store/apps/details?id=com.plannet.milesandmoreapp).
Test as much input data validation as it can be tested."

Solution Goals

- Manual identification of the input validation rules and errors (create test plan)
- Data driven testing
  - XML test configuration
  - No hardcoded asserts
- Test cases modularity
- Test HTML report; detailed log for debugging; failures screenshots

- Self contained test cases details and usage information
- Page Object Model
  - to separate page elements mapping from tests
  - to increase the ease of maintenance
  - to reduce tests brittleness
- Executable jar solution

Environment

		Details
Environment dependencies	OS: Windows	
	Java SE - SDK 8	environment http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html IDE Eclipse
	Selenium	selenium-server-standalone-3.0.1.jar
	Appium Gui	Java - Selenium - Emulator bridge http://appium.io/
	Android Studio	Android SDK and emulator (avd) https://developer.android.com/studio/index.html
Mobile OS	Android	Supported - tested on Android 7.0
	IOS	Not supported
Solution status	21.06.2017	Incomplete, needs improvement

Alternative technologies to test: http://selendroid.io/mobileWeb.html

Questions:

- Does input validation need to be performed as UI test?
- Can it be pushed to unit test?

Application info (_https://play.google.com/store/apps/details?id=com.plannet.milesandmoreapp_**) :**

Current Version   1.4.1

Requires Android 5.0 and up

Manual identification of the input validation rules and errors (create test plan)

Create Account Page 1

First name input		
#	Test input	Validation Errors
1	empty	Invalid first name. It can consist of 2 up to 15 characters. First name may only consist of letters or a hyphen between the letters.
2	one letter	Invalid first name. It can consist of 2 up to 15 characters.
3	2 letters + hyphen	First name may only consist of letters or a hyphen between the letters.
4	hyphen + 2 letters	First name may only consist of letters or a hyphen between the letters.
5	2 letters + not (letter or hyphen)	First name may only consist of letters or a hyphen between the letters.

6	One character other than letters of hyphen	Invalid first name. It can consist of 2 up to 15 characters. First name may only consist of letters or a hyphen between the letters.
7	letters separated by 2 hyphens	First name may only consist of letters or a hyphen between the letters.
8	2 characters (letters)	no error
9	15 + n characters	input is truncated at 15 chars and no error
10	2 letters separated by hyphen	no error

Last name input

1	empty	Invalid last name. It can consist of 2 up to 31 characters. First name may only consist of letters or a hyphen between the letters.
2	one character (letter)	Invalid last name. It can consist of 2 up to 15 characters.
3	2 letters + hyphen	Last name may only consist of letters or a hyphen between the letters.
4	hyphen + 2 letters	
5	2 letters + not (letter or hyphen)	
6	One character other than letters of hyphen	Invalid last name. It can consist of 2 up to 31 characters. Last name may only consist of letters or a hyphen between the letters.
7	letters separated by 2 hyphens	Last name may only consist of letters or a hyphen between the letters.
8	2 characters (letters)	no error
9	31 + n characters	input is truncated at 31 chars and no error
10	2 letters separated by hyphen	no error

Create Account Page 2

#	Test input	Validation Errors
Birth Date		
1	empty	Invalid birth date.
Street + number		
1	empty	Please enter your street.
2	Letters and no nr	Invalid street number.
3	letters + symbol + number	The street name you have entered contains invalid characters.
4	symbol	The street name you have entered contains invalid characters. The street name you have entered contains invalid characters.
5	Letters + number	no error
6	Letters + spaces + number	
7	Letters + hyphens + number	
8	number	
Zip Code		
1	empty	Please enter your zip code.
City		
1	Empty	Please enter your city and repeat the process.

2	Word + non letter	
3	Start with hyphen	
4	End with hyphen	
5	Start with space	The "City" field contains invalid characters. Only letters, spaces or hyphens between the letters are permitted.
6	End with space	
7	Word + space + hyphen + word	
8	Word + hyphen + space + word	
9	Word + 2 hyphens + word	
10	Word + 2 spaces + word	
11	A-b c-d	No error
Country		
1	empty	Invalid country.

Create Account Page 3

#	Test input	Validation error
Username		
1	● empty	Username must not be empty.
2	● less than 4 characters	Username must be between 4 and 16 characters.
3	● more than 16 chars	

4	● Letters + space + letters	Username may not contain any whitespaces. Username may only consist of letters or numbers.
5	● chars and symbols	Username may only consist of letters or numbers.
6	● Digit + 4 letters	Username needs to start with a letter. Username may only consist of letters or numbers.
7	● 4 characters (letters + numbers, start with letter)	no error
8	● 4 characters (letters)	no error
9	● 16 characters (upper boundary)	no error
Password		
1	empty	Password must be between 8 and 32 characters.Password must contain at least one upper-case letter.Password must contain at least one lower-case letter. Password must contain at least one digit. Password must contain at least one special character (excluding §).
2	7 characters	
3	33 characters	
4	8 lower-case letters, no upper-case letter, no digit, no special character	Password must contain at least one upper-case letter. Password must contain at least one digit. Password must contain at least one special character (excluding §).
5	8 upper-case letters, no lower-case letter, no digit, no special character	Password must contain at least one lower-case letter. Password must contain at least one digit. Password must contain at least one special character (excluding §).
6	Upper + lower case letters + no digit, no special character	Password must contain at least one digit. Password must contain at least one special character (excluding §).
7	Upper + lower case letters + digit, no special character	Password must contain at least one special character (excluding §).
8	Upper + lower case letters + digit + special char §	Can't find § on android keyboard
9	Upper + lower case letters + digit + special char	no error

	other than §	
Confirm password		
1	other than new password text	The passwords you entered in the "Password" and "Confirm Password" fields do not match.
2	new password input text	no error
Email		
1	invalid email	Invalid email.
2	valid email	no error
Temporary card number		
1	invalid card number	Invalid card number. Please try again
2	valid card number	Cannot test because no valid card number is known.

Test configuration

- demo.xml - short test that fails (for demo.mp4)
- createAccountPage1.xml - test scenario for text input validation on first CreateAccount page
- createAccountPage2.xml - test scenario for text input validation on second CreateAccount page
- createAccountPage3.xml - test scenario for text input validation on third CreateAccount page
- createAccountCompleteValidFlow.xml - complete valid Create Account flow (until "I am not a robot" dialog)

Solution usage

- Start Appium GUI and start server (default http://0.0.0.0:4723)
- Start Android emulator Android Studio AVD (Android 5.0 and up)
- Go to the location of the project with Windows explorer (yourPath\mobileAutomation)
- Open a command line
  - Run "java -jar mat.jar testConfiguration.xml"
    - The test starts and it creates a log folder for current run (yourPath\mobileAutomation\logs)
    - After test end, the last line of the log shows the HTML report location (within the log folder)
    - Log folder content: detailed log, HTML report, failures screenshot
- Demo: yourPath\mobileAutomation\docs\demo.mp4
- Solution is developed using Eclipse and there is also an Ant configuration file antBuildFile.xml, available for automating the build/deployment of the project.