Becoming a Pro

IN Mobile Applications Testing

Mobile Test Industry Standards
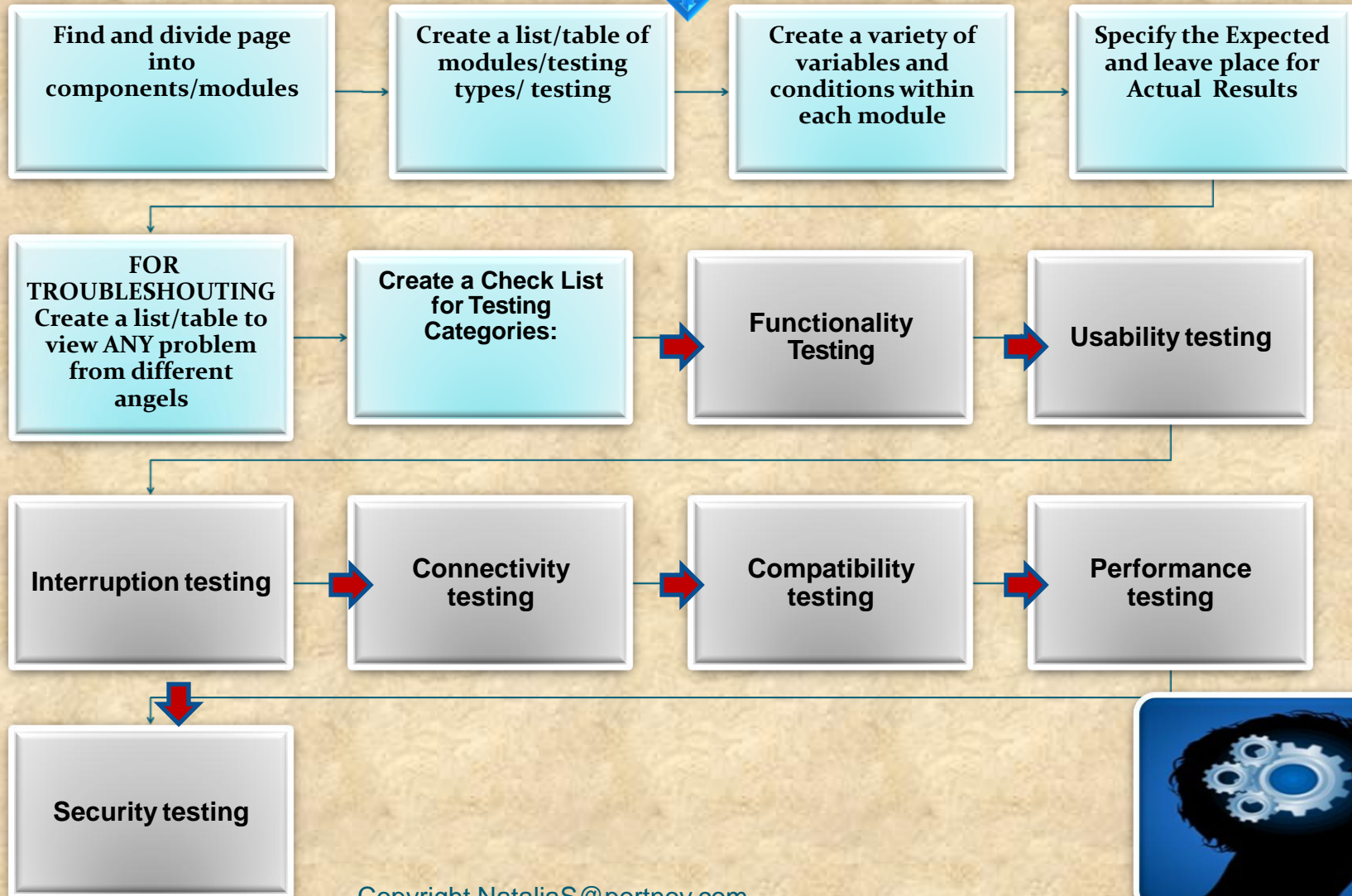# Testing Strategies for Mobile Apps : LETS PRACTICE

How to Start Testing a Mobile Page

```
Find and divide page into components/modules → Create a list/table of modules/testing types/ testing → Create a variety of variables and conditions within each module → Specify the Expected and leave place for Actual Results
```

```
FOR TROUBLESHOUTING Create a list/table to view ANY problem from different angels → Create a Check List for Testing Categories: → Functionality Testing → Usability testing
```

```
Interruption testing → Connectivity testing → Compatibility testing → Performance testing
```

```
Security testing
```

Mobile Test Industry Standards
Testing Strategies for Mobile Apps : LETS PRACTICE

Consumers behaviour only on the basis of experience delivered by app

29%

of smartphone users will immediately switch to another site or app if it doesn't satisfy their needs

70%

of them do so because of lagging load times

67%

will switch if takes too many steps to purchase or get desired information

Mobile Test Industry Standards :
Testing Strategies for Mobile Apps

GUI TEST Checklist

Navigation	Default and shortcut keys
Formatting	Tab
Color and fonts	Opening input
Scrolls	Alternatives
Controls and alignments	Behavior
Spelling and grammar	Modality and multiple windows
Justification	Contrast
Look and feel	Images

Mobile Test Industry Standards
Testing Strategies for Mobile Apps : LETS PRACTICE

top considerations for creating a release <u>CHECK LIST</u> for mobile app testing

Application Installation/Update

Application Sign Up & Log in

Subscription scenarios

Application Sanity Suit

APP works in different Mobile modes

User Friendly

Network connectivity

Data save conditions

Mobile interruptions

Battery Consumption

Mobile memory utilization

Mobile data utilization

Screen scrolling application screen

New OS release support

correct implementation of AdMob or other mobile ad platform

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Test case	Sub-Category	Description	Result
1. Installation		Verify that app can be Installed Successfully	App should be able to install Successfully
2. Un-installation		Verify that app can be Uninstall Successfully	User should be able to uninstall the app successfully
3. Network Test Cases		Verify the behavior of app when there is Network problem and user is performing operations for data call	User should get proper error message like "Network error. Please try later"…
		Verify that User is able to establish data call when Network is back in action	User should be able to establish data call when Network is back in action

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TC	Sub-Category	Description	Result
4. Voice Call Handling	Call Accept	Verify that User can accept Voice call at the time when app is running and can resume back in app from the same point	User should be able to accept Voice call at the time when app is running and can resume back in app from the same point
	Call Rejection	Verify that User can reject the Voice call at the time when app is running and can resume back in app from the same point	User should be able to reject the Voice call at the time when app is running and can resume back in app from the same point
	Call Establish	Verify that User can establish a Voice call in case when app data call is running in background	User should be able to establish a Voice call in case when app data call is running in background

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TC	Sub-Category	Description	Result
5. SMS Handling		Verify that User can get SMS alert when app is running	User should be able to get SMS alert when app is running
		Verify that User can resume back from the same point after reading the SMS	User should be able to resume back from the same point after reading the SMS
6. Unmapped Keys		Verify that unmapped keys are not working on any screen of app	Unmapped key should not work on any screen of app
7. Application Logo		Verify that app logo with App Name is present in app manager, on the App screen page, widgets (opt.) and user can select it	Application Logo with App Name should be present in app manager, on the App screen page, widgets (opt.) and User can select it.

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TC	Sub-Category	Description	Result
8. Splash Screen		Verify that when User selects app Logo in Splash is displayed. **Note:** Splash do not remain for fore than 3 sec **Note:** A splash screen is an image that appears while a game or program is loading.	When User selects app, Logo in app Splash should be displayed
9. Low Memory		Verify that app displays proper error message when device memory is low and exits gracefully from the situation	App should display proper error message when device memory is low and exits gracefully from the situation
10. Clear/Back Key		Verify that Clear key should navigate the User to previous screen	Clear Key should navigate the User to previous screen
11. End/Home Key		Verify that End Key should navigate the User to native Device screen	End Key should navigate the User to native Device screen

Mobile Test Industry Standards
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TC	Sub-Category	Description	Result
12.Visual Feedback		Verify that there is visual feedback when response to any action takes more than 3 sec	There should be visual feedback given when response time for any action is longer than 3 sec
13. Continual Keypad Entry		Verify that continual key pad entry do not cause any problem. **Note:** Continual Keypad test consist in a multiple key press, done quickly as possible, in order to load at maximum capacity the handset's memory	Continual key pad entry should not cause any problem in app
14. Exit Application		Verify that User is able to exit from app with every form of exit modes such as Flap, Slider, Home Key or Exit option from any point of app	User should be able to exit with every from of exit mode such as Flap, Slider, Home Key or Exit option from any point of app
15. Charger Effect		Verify that when app is running then inserting and removing charger do not cause any problem and proper message is displayed when charger is inserted in device	When app is running, then insertion or remove of charger not cause any problem, and proper message displayed .

TC	Sub-Category	Description	Result
16. Low Battery		Verify that when app is running and battery is low, then proper message is displayed to the User.	When app is running and battery is low, there should be proper message displayed to the User
17. Removal of Battery		Verify that removal of battery at the time of app data call is going on do not cause interruption and data call is completed after battery is inserted back in the device	Removal of battery at the time of app data call is going on should not cause interruption and data call should be completed after battery is inserted back in the device
18. Battery Consumption		Verify that app does not consume battery excessively	The app should not consume battery excessively
19. Application Start/Restart		Find the app icon and select it. Press tab on the Device to launch the app. Observe the app launch in the timeline defined.	App must not take longer than 25 sec to start

Mobile Test Industry Standards
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TC	Sub-Category	Description	Result
20. Application Side Effects		Make sure that your app is not causing other apps of device to hamper	Installed app should not cause other apps of device to hamper
21. External incoming communication infrared		App should gracefully handle the condition when incoming communication is made via InfraRed	When incoming communication enters the device, the app must at least respect one of the following: A. Go into pause state during InfraRed session and automatically continue from the point it was suspended at after the InfraRed session is done B. Give a visual or audible notification The app must not crash or hung.

TC	Sub-Category	Description	Result
22. Bluetooth interrupt:		When a file transfer is taking place with Bluetooth, the application must be paused and should be resumed from the same point after the transfer is done	

HOMEWORK

Write as many Test Cases you can for this simple app on Mobile device with three buttons (A, B and C) that making different sounds upon tapping on it.

A - for Audio 1
B - for Audio 2
C - for Audio 3

You are free to create conditions and Rules for each button , but be consistent.

Write Test Cases (use previous slides for hints).

HAVE FUN !

main page

My Application Features

| A | B | C |

Mobile Test Industry Standards :
Testing Strategies for Mobile Apps

Smoke TEST aka "build verification test"

Performed after software build to ascertain that the critical functionalities of the program is working fine.

Smoke Testing

Executed "before" any detailed functional or regression tests

The purpose is to reject a badly broken application, so that the QA team does not waste time installing and testing the software application.

Example :
a smoke test may address basic questions like
"Does the app run?",
"Does it open a page ?", or **"Does tapping on the home key do anything?"**

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Sanity TEST aka "tester acceptance test"

After receiving a software build, with minor changes in code, or functionality, Sanity testing is performed

The goal is to determine that the proposed functionality works roughly as expected.

If sanity test fails, the build is rejected to save the time and costs involved in a more rigorous testing.
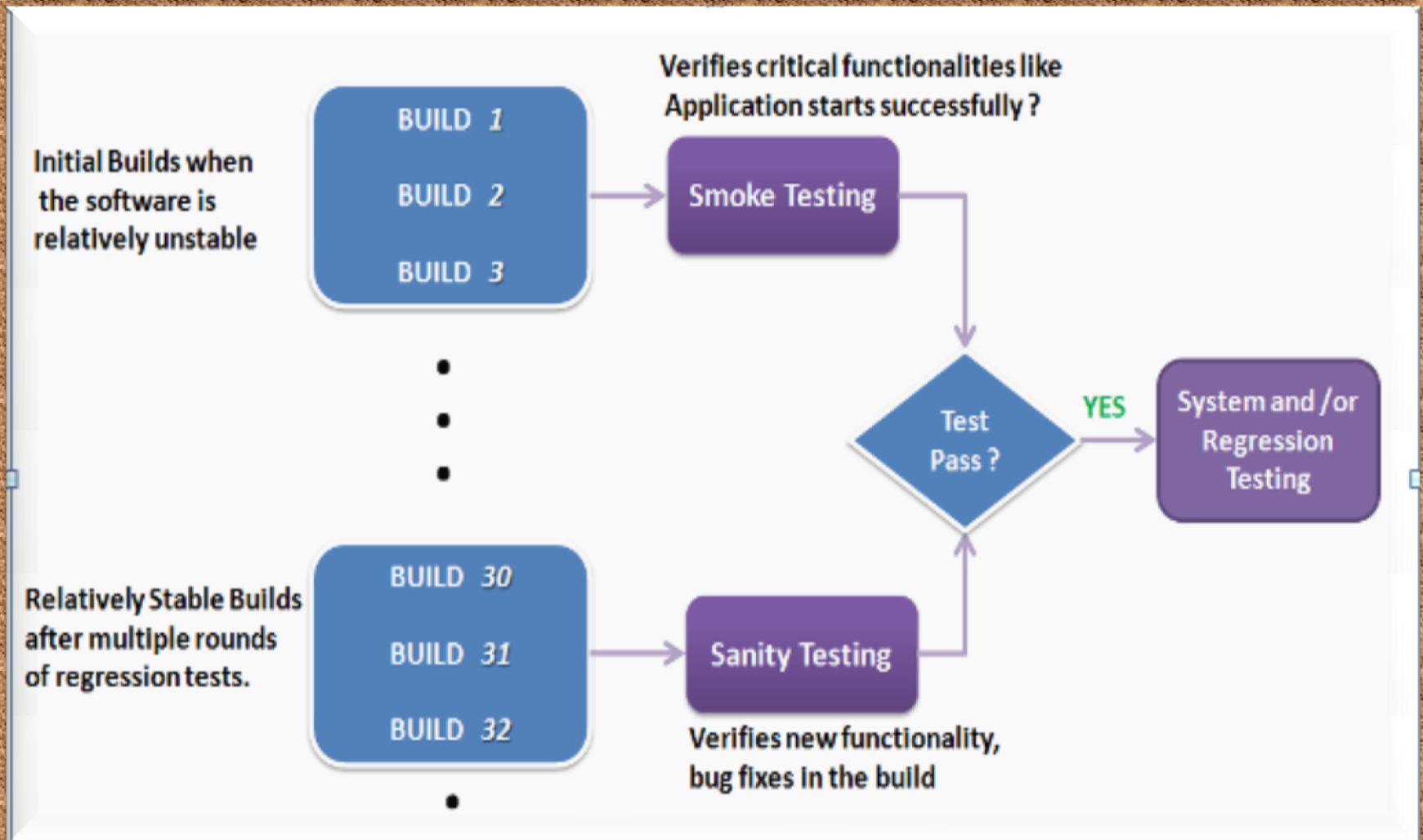
Example :

if your scientific calculator gives the result of 2 + 2 =5!
 Then, there is **no point** testing the advanced functionalities like sin 30 + cos 50

Smoke vs Sanity TEST

Initial Builds when the software is relatively unstable

BUILD 1
BUILD 2
BUILD 3

Verifies critical functionalities like Application starts successfully ?

Smoke Testing

Test Pass ?

YES

System and /or Regression Testing

Relatively Stable Builds after multiple rounds of regression tests.

BUILD 30
BUILD 31
BUILD 32

Sanity Testing

Verifies new functionality, bug fixes in the build

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Comparison SUMMARY

Smoke Testing	Sanity Testing
Smoke Testing is performed to ascertain that the critical functionalities of the program is working fine	Sanity Testing is done to check the new functionality / bugs have been fixed
The objective of this testing is to verify the "stability" of the system in order to proceed with more rigorous testing	The objective of the testing is to verify the "rationality" of the system in order to proceed with more rigorous testing
This testing is performed by the developers or testers	Sanity testing is usually performed by testers
Smoke testing is usually documented or scripted	Sanity testing is usually not documented and is unscripted
Smoke testing is a subset of Acceptance testing	Sanity testing is a subset of Regression testing
Smoke testing exercises the entire system from end to end	Sanity testing exercises only the particular component of the entire system
Smoke testing is like General Health Check Up	Sanity Testing is like specialized health check up

Mobile Test Industry Standards :
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Smoke and Sanity TEST Checklist –UI

1. APP/Webpage title as per the page's functionality.

2. Spelling/ grammatical mistake (e.g. Text, Caption, Label).

3. Proper field alignment (Left margin, right margin, bottom margin, top margin).

4. Same font size/style or as per the requirement.

5. Proper space between texts, text lines, fields.

6. Standard format and size of button.

7. Textbox: Border, alignment, size, length, Data Type.

8. Combo box: Size, alignment, showing valid value.

9. Date picker (Not by keyboard, from date to date range).

10. Mandatory field identified with an identification like (*) sign.

11. Image length, size, alignment

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Smoke and Sanity TEST Checklist –Functional

1. Mandatory and composite field validation.	2. Error message not mandatory for optional field.	3. Numeric field does not accept the alpha numeric and proper error message display.	4. Max length checking for specific input field (e.g. Credit card number, Account number).
5. Confirmation message for Insert/update/ delete operations.	6. Correct format of amount value.(Should be numeric)	7. Uploaded documents are opened and generated properly.	8. Validation (Equivalence partitioning/Boundary value analysis/Positive testing/Negative/Page Refreshing).
	9. System works properly with multiple browsers.	10. Pagination works and number shows properly.	

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Smoke and Sanity TEST Checklist –Database

1. Database name, Tables, columns name, column types matches according to requirement.

2. Data saves properly into the database after the each page submission.

3. Data display on the front end and make sure it is same in the back end.

4. Is any difference between Live and Test environment (Database Name, Table Name, Column Name, Data Type, Entity Relationship Key – Primary, Foreign, Unique key)

5. Checking Procedure/Function Create/Update related information(Entity Name, Author, Create/Update Date, Description/Purpose)

Smoke and Sanity TEST Checklist –Security

1. Session timeout checking. Whether the page is expiring after the specific time.

2. Does the page browse if I paste it in a newly open browser?

3. Browser back-forward button checking if the page consist any calculation or information submission.

4. Does the browser's back-forward button re-submit the page?

5. Does this application has admin/user log in the database?

6. Password, Account number, credit card number display in encrypted format.

7. Access the secured App/web page directly without login

8. User account gets locked out if the user is entering the wrong password several times.