

Becoming a Pro

IN Mobile Applications Testing



Mobile Test Industry Standards

Testing Strategies for Mobile Apps : LETS PRACTICE

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



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Functional Test

Case	Description	Result
Button A	Verify that when Button A is pressed, sound tone A appeared	When button A is pressed the sound tone A should be audible
Button B	Verify that when Button B is pressed, sound tone B appeared	When button B is pressed the sound tone B should be audible
Button C	Verify that when Button C is pressed, sound tone C appeared	When button C is pressed the sound tone C should be audible
Combination of buttons and sounds	Verify that when A,B,C buttons are pressed consecutively, the specific sound A,B,C is appeared	When buttons A,B, C are pressed consecutively, the audible tones A, B, C should be observed

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UI Test

Case	Description	Result
Panning (sliding horizontally left-right) Swiping	Verify that when main Page is panned/swiped, the sound buttons A,B,C remains in the same order, the same position on the page screen, and do not make sound	The buttons A,B,C, should not loose the order or make any sound during panning/swiping gestural input procedures
Rotation	Verify that when device is rotated, Buttons ABC should not loose it's order and make any sound	During device's rotation Buttons ABC should not loose it's order and make any sound
Zooming	Verify that buttons A,B, C should not loose the order or make any sound during the Zooming gestural procedure	Buttons A,B,C should not loose the order or make and sound during the Zooming procedure

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Interruption Test

Case	Description	Result
Phone Call Interruption	Verify that when Phone Call is initiate, buttons ABC are in “pause” mode and do not perform assigned sound tones.	When Phone Call is occurred, the Buttons ABC should be saved in ‘pause” mode and do not perform assigned sound tone.
Text message interruption	Verify that when SMS notifications/ message appears, the main app page will response with safe, end session	When SMS action occurs, proper error message should be displayed and app will be closed gracefully with saved information
Verge App Notification (w/ TuneTone)	Verify that when TechNews Notification with the Ringtone occurs, buttons ABC will pause and perform assigned sound tones after Notification Ringtone is done.	When TechNews Notification (w/Ringtone) occurs the Buttons ABC should be pause until Ringtone tune are done, and continue to perform ABC assigned sound after no more than 3 sec delay.

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Connectivity Test

Case	Description	Result
Flight Mode of Mobile Device	Verify that when Device has Flight Mode ON, the Buttons ABC are still active and performing sound	Buttons ABC should be active and perform assigned sounds when Mobile Device is in Offline Mode.
Bluetooth Connection active with Wearable Device	Verify that when Wearable Device BT connected and play Music, the Buttons ABC are still active and performing sound	Buttons ABC should be active and perform assigned sounds when Mobile Device is in active Bluetooth Mode.
Low bandwidth Network	Verify that when Device is in Frequently changed "hopping" area the Buttons ABC are still active and performing sound	Buttons ABC should be active and perform assigned sounds when Mobile Device is in the "hopping mode"

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Performance Test

Module	Description	Result
Define the maximum amount of load that a system can handle	Verify that when 10,000 Users press A,B,C buttons pressed simultaneously, the designed combination of three sound tone is appeared	When buttons ABC are pressed simultaneously the tune combined of three sounds should appeared
The number of concurrent user that application can handle	Verify that when 10,000 User concurrently press Buttons A, there is not drop in functionality and sound quality.	When 10,000 User concurrently press Button A it should be not affect the functionality or sound quality
Check application scalability	Verify that during the Device OS/Firmware/ Native App upgrades application can run without drop in performance	When Device OS/or Phone Firmware/or Phone Native App upgrades occurs the application runs without significant performance degradation

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Smoke TEST aka “build verification test”

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

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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Testing Strategies for Mobile Apps

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 :

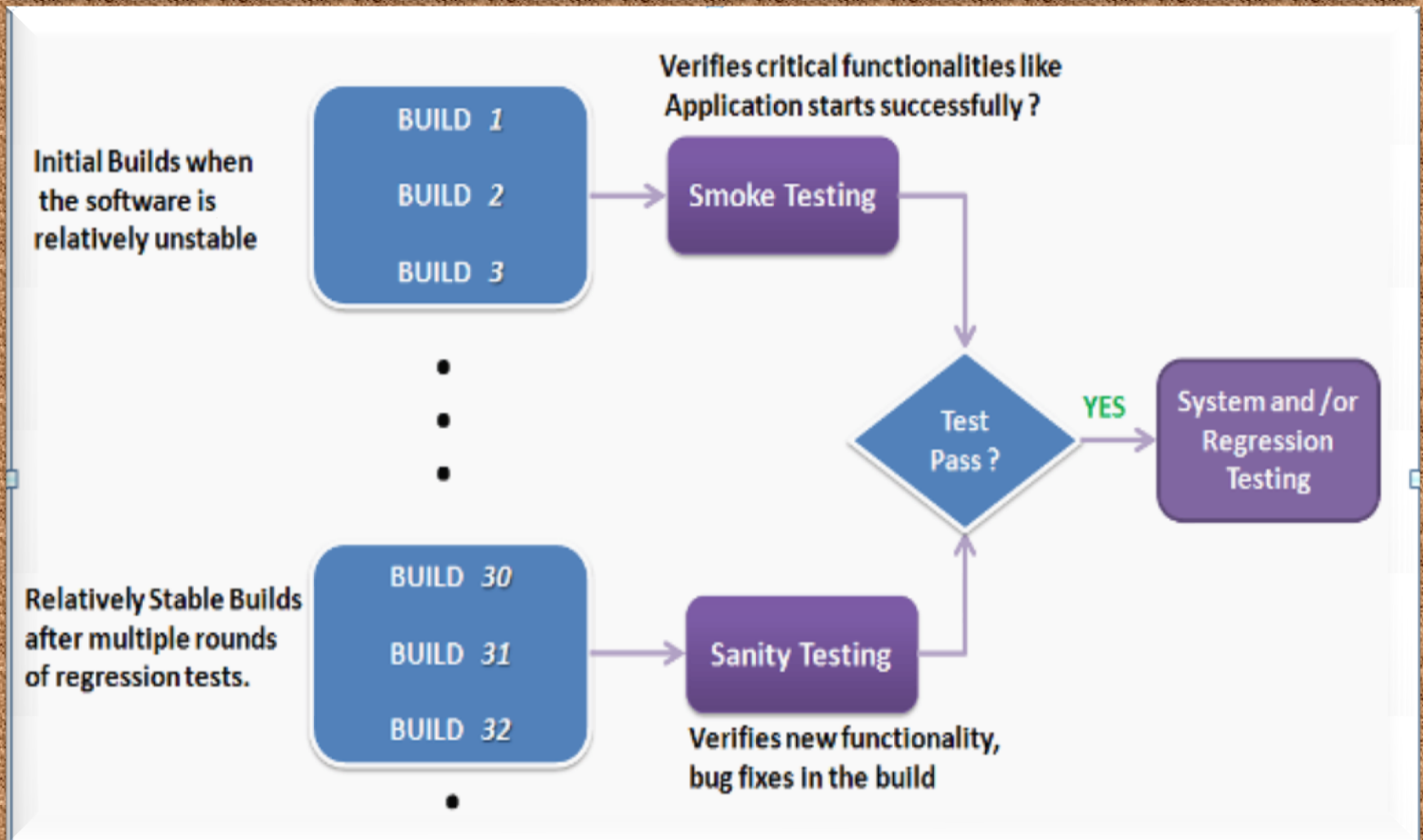
if your scientific calculator gives the result **of $2 + 2 = 5$!**

Then, there is no point testing the advanced functionalities like **$\sin 30 + \cos 50$**

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Smoke vs Sanity TEST



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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 Regression testing	Sanity testing is a subset of Acceptance 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

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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)

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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.

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

Mobile Test Industry Standards :

Mobile game testing differs from the regular mobile app testing.

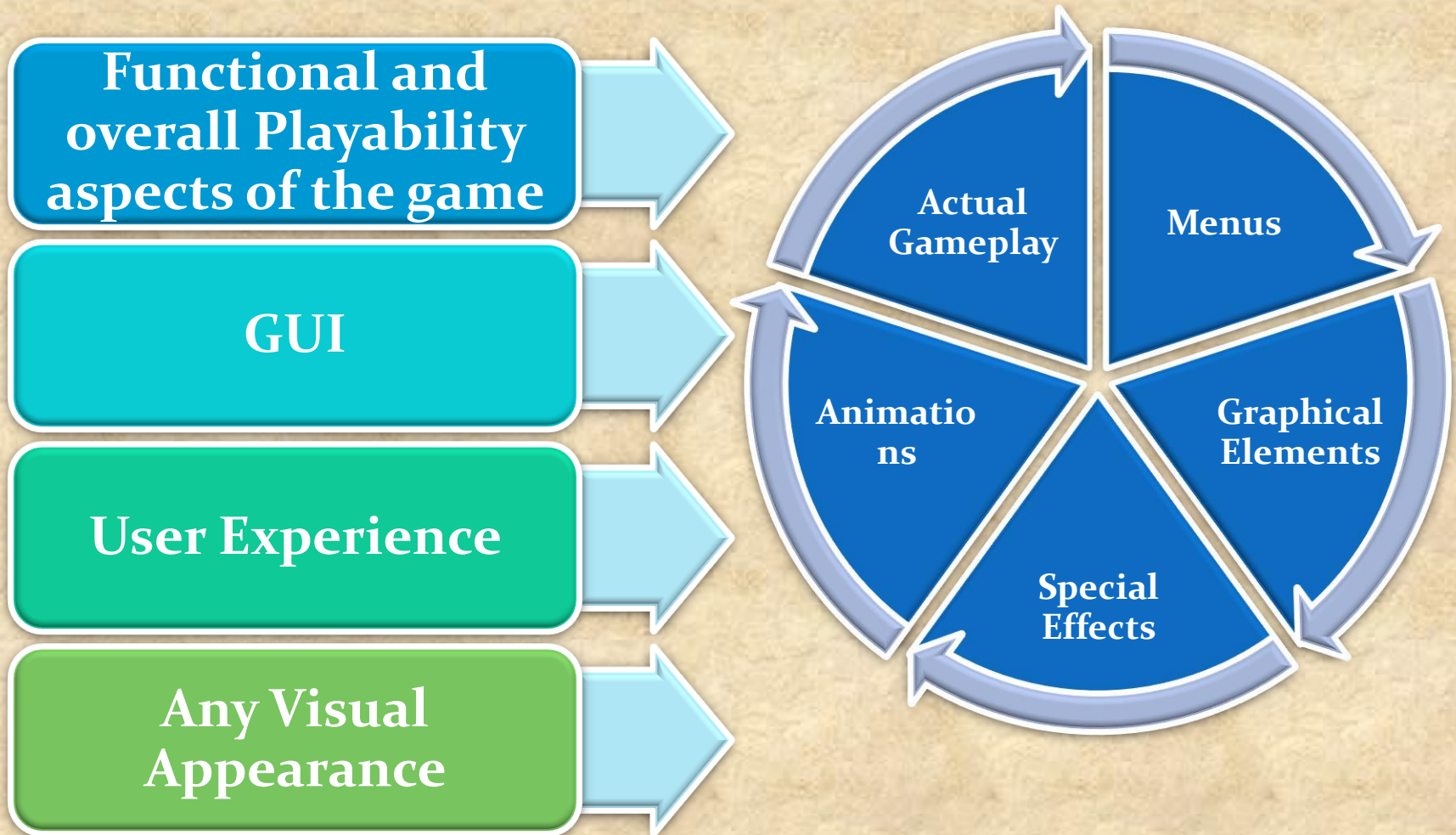
Effective mobile game testing derives from a well-structured and systematic approach, use of test automation framework and seamless integration with your agile process.



Mobile Test Industry Standards :

Testing Strategies for Mobile Apps : **GAMES**

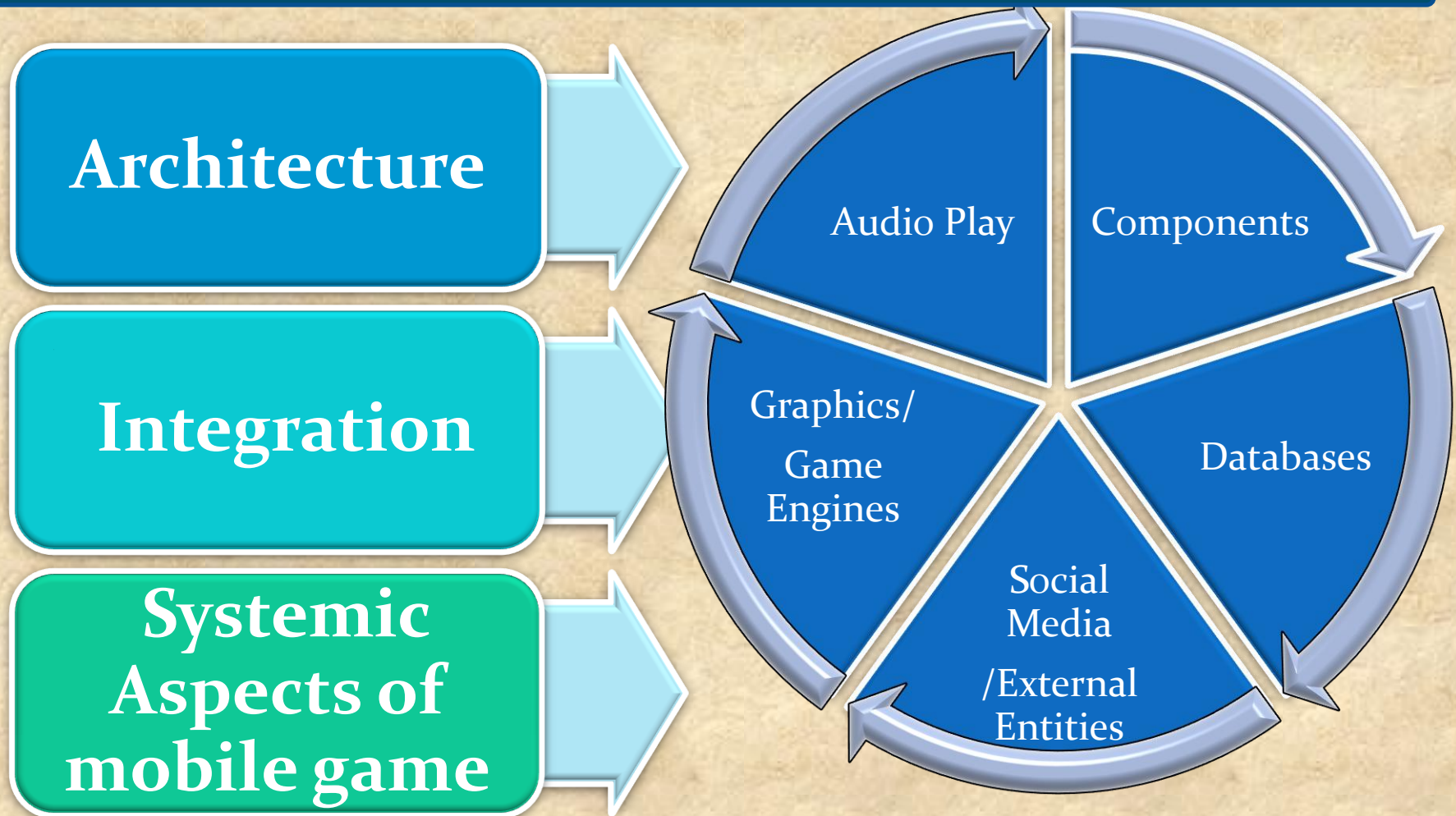
Black-Box Testing Approach focuses on :



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Testing Strategies for Mobile Apps : **GAMES**

White Box Testing Approach focuses on :



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Testing Strategies for Mobile Apps : **GAMES**

Test Type	Purpose
<i>Functional</i>	reveal issues related to user interface (and graphics), stability, game flow/mechanism, and integration of graphics assets.
<i>Compatibility</i>	reveal incompatibility issues with any parts of the game, its third-party components or integrations with those actual devices that end-users use.
<i>Performance</i>	important to understand how used device ecosystem varies and what are actual requirements of the game for its users.
<i>Localization</i>	your game titles, texts and content needs to be translated and tested with devices in multiple languages.
<i>Regression</i>	needs to happen when anything changes in software : server-client interaction, requiring a login, uploading of data (e.g. results) and downloading of data (e.g. data, images).
<i>Load</i>	tests the limits of a system, such as the number of players on a server, the graphic content on the screen (e.g. frames per second, FPS), or memory consumption (allocation and deallocation of it).