Test Plan

Introduction:-

Monefy - Money Manager is a handy personal finance management tool for Android, iOS and Windows Phone platforms. The Test plan designed is for testing the mobile application in its entirety.

The Test Plan includes the Scope, Categorization of the tests, Test approach and the actual tests. The main focus is on the quality of the mobile application and coverage.

In Scope:-
As Moneyfy is a native mobile application, the following needs to be validated.
- Device and Application Performance
- App Features and Functionality

Out of Scope:-
- Not a Mobile Web application –
  - Server/API performance need not be tested
  - Network Performance need not be tested

Categorization based on priority
The Tests to be categorized under the priority levels in the decreasing order of priority from P0 to P3.

- Blocker tests   (P0)

- Critical tests   (P1)

- Major Tests   (P2)

- Minor Tests   (P3)

Performance :-

Performance of the mobile application is one of the top priorities. If it fails to perform to the user's expectations, it will be easily be uninstalled and the user would go for an alternate app. The Device and application performance should be tested thoroughly.

1.0 Device Performance
Device performance should not be affected post installation and usage of the app. It needs to be validated for any performance issues.

Priority	Tests
P0	Battery consumption when app under use should be under acceptable limits
P0	Power management :- • Validate performance demand of the app on low battery conditions
P0	App should not interfere with normal phones working and operation • Ability to successfully receive calls and text messages • Switching between apps • receiving notifications that are enabled • Native apps usage test when app is running
P1	Switching between multiple active apps must be seamless and should not affect device performance
P2	Hard Reboot of phone with app on:- • Validate the app does not add any latency to startup

2.0 Application Performance
Application should work as expected under any load. It's performance and usability should not be affected.

Priority	Tests
P0	Validate App start up time is under expected limits

P0	Test app functionality when on Power Saver mode
P0	Hard Reboot of phone with app on should not affect the app's functionality
P0	Memory Consumption by the App should be under acceptable limits when memory hungry features are activated
P0	Repeated Launch/Kill of the application should not affect OS performance or the app functionality
P1	App Running in the background and switching between apps should not cause loss of unsaved entered data
P1	Crash recovery should be validated for all data being intact post unexpected crash
P2	Validate app for Memory utilization and management • Validate other running apps are not affected • Validate app performance with other apps running in the background
P2	Validate Response time is as per expected limits
P2	Validate data synchronization on multiple devices with the same Cloud account (GoogleDrive, Dropbox). Should not affect application performance
P2	Back Up and Restore should be seamless without affecting app performance

Functionality :-
Functional aspects of the mobile application needs to be validated.

Priority	Tests
P0	Validate app availability on multiple distribution channels (App Store, Android etc) • Check for documentation accuracy and download capability

P0	Test Download of app on multiple OS versions and devices
	• OS version compatibility
	• Test all supported OS version and Devices
	Negative test-
	• Test download with incompatible OS versions and devices
P0	Delete/Reinstall should be successful
P0	Installation success on multiple OS versions and devices
	Negative Test –
	• Validate installation failure on unsupported OS and device
P0	OS version upgrade with app pre-installed
	• Test whether application is supported with the upgraded OS
	• Validate App prompts and Upgrade followed by basic sanity
	• Validate App prompts – indicating incompatibility issues and appropriate information for remediation if available
	Negative Test-
	• Upgrade OS to an Unsupported version
P0	Validate free and paid version features availability
	• Appropriate prompt should be displayed to the User asking to upgrade
	• App's paid features should be validated for their availability and usage
P0	UI validation for all expected fields and feature headings
P1	Validate upgrade to paid version and features
	• Test payment Gateways
	Negative test –
	Validate Test payment gateway failure with invalid credentials
P1	Clear Data option should clear all relevant data of the user without any delays
P1	Check for any files being left behind post Uninstallation/deletion of the app.
	• Validate post reinstallation, the app contains no traces of the previous installation/data

Features Testing :-

The Features provided by the application to be validated for its availability and usage.

Priority	Tests
P0	Expenses addition into categories
P0	Income entries and calculation should be validated • Adding new Incomes to be validated
P0	Filtering Data based on the period and date should be validated
P0	Balance with Details of the records should display accurate values
P1	Data export to file
P1	Fund Transfer detail addition should be validated
P1	Accounts • Cash • Payment • Filtering Data on Account type should work as expected • Adding new account be validated
P1	Date/period Toggling should work as expected
P1	Categories • Should display all available default categories • Should allow adding of a new category
P1	Budget Mode, Carry Over features to be validated
P1	Multiple Currency support feature
P1	Language feature • Select different language and validate all available fields are updated accordingly
P1	Synchronization with GoogleDrive and Dropbox • Validate data synchronization conflict with different accounts
P1	Data backup and Restore

Priority	Tests
	• Validate the Backup file locally created is very light and is not corrupted. • Restore from the backup file available on the device and check for data availability
P2	Review Application should take the user to the app store/play store

Usability and UI :-

Priority	Tests
P1	Application needs to be launched immediately with no visible delays
P1	Graphical representation validation
P1	Check for contextual correctness of all the fields available
P1	Dark theme selection and transition should be seamless
P2	Buttons and icons should be clear and of required size
P2	Keyboard input should transition seamlessly
P2	Contextual menu validation for quick use
P2	Validate that the user Interface of the application is as per the screen size of the device, no text/control is partially invisible or inaccessible.

Security Testing :-

Priority	Tests
P1	Passcode validation • Login with the correct password several times • Exit and login again into the app with correct password repeatedly **Negative test –** • Validate incorrect attempts (brute force attacks) does not affect the app and any security features like Lockout for certain time should be initiated

P1	Google Drive and Dropbox Synch • Validate for valid and invalid account/password combinations
P2	Validate data synchronization happens over secure channels with proper authentication and encryption

Ad Hoc/Exploratory Testing :-

Priority	Tests
P3	Invalid data and characters added to fields displays expected error messages
P2	Data Synchronization:- • Validate Data back-up loss when application is killed or Battery dies • Validate data restore state when application is killed or Battery Dies • Validate Data backup and restore under low Network conditions and verify for any data loss
P2	App Crashes :- • Check Deletion of the app clears all relevant data in crash state

Automation Planning
- **Objective :-**
  - Automate P0 Tests on priority
  - Need to focus on the quality of the app.
  - Categorize the P0 tests under Smoke/Sanity and Regression
  - Smoke tests to be run periodically to validate app and device sanity

- P1 Tests automation to follow
  - Feature Test cases to be automated as part of regression runs

Summary

Native mobile App testing requires understanding of the mobile app features and functionalities provided, resource utilization, emulators to test the app on and finally testing the app on a physical device.

- Performance is the main criteria that needs to be validated
- Followed by features and functionalities offered by the app
- Automation of the tests is handled in parallel to avoid regression issues and the time taken to validate any new build.
- With every new feature/functionality added, the application needs to be tested and tests to be automated within the release.