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Test Plan

Pet Seizure Tracking Mobile Application

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1. INTRODUCTION

1.1 PURPOSE

This test plan describes the testing approach and overall framework that will drive the testing of the Pet Seizure Tracking Mobile Application. The document introduces:

- Test Strategy: rules the test will be based on, including the givens of the project (e.g.: start / end dates, objectives, assumptions); description of the process to set up a valid test (e.g.: entry / exit criteria, creation of test cases, specific tasks to perform, scheduling, data strategy).
- Execution Strategy: describes how the test will be performed and process to identify and report defects, and to fix and implement fixes.
- Test Management: process to handle the logistics of the test and all the events that come up during execution (e.g.: communications, escalation procedures, risk and mitigation, team roster)

1.2 PROJECT OVERVIEW

The Pet Seizure Tracking mobile application will be a convenient and powerful tool for pet owners and their veterinarians to communicate, log, and diagnose medical events such as seizure episodes, medication usage, food consumption, sleep, and other symptoms the pet may display.

The application will motivate owners to actively keep up with tracking their pet's activity using a simple and efficient interface to submit new logged events through a streamlined form system. The data sent by the pet owners will then be compiled and packaged into a digestible and statistic-oriented package that can be accessed by their veterinarians either directly through the app or externally.

1.3 AUDIENCE

- All project team members perform the tasks and requirements specified by this document and make contributions towards updating and upholding this test plan.

- The client may participate in User Acceptance Testing and Usability testing

2. TEST STRATEGY

2.1 TEST OBJECTIVES

The primary objective of the test is to verify the functionality of the Pet Seizure Tracking Mobile application and that it meets all specification guidelines.

The test will execute various test scripts and drivers to identify medium to high severity defects per the entrance criteria and prioritize low severity defects to code review.

The outcome is a release-ready application with a stable set of test drivers to be reused for future functional, usability, and acceptance testing.

2.2 TEST ASSUMPTIONS

Key Assumptions:

- Example set data will be available within the system prior to testing

General Assumptions:

- Exploratory Testing is carried out first as soon as build is ready for testing

- Performance testing is not considered for this estimation

- All defects should come with a snapshot in a readable image format

- The development team is responsible for test case design

- The development team is responsible for test environment and preparation

- Medium to high severity defects will be supplied with defect fix plans based on weekly Defect meetings during each test cycle

- Low severity defects will be subject to weekly code review

- The project will support test planning, test design, and text execution support

- The team will work with the client to manage user acceptance testing

- Testing does not cause downtime to the environment or development

Functional Testing:

- Preloaded data in the system will be used for functional testing at execution

Usability and Acceptance Testing:

- UT and UAT will be performed during production and at the end by end users or the client following a script and use cases provided by the development team

Unit Testing:

- Unit tests will be ran and must pass each cycle before pushing further changes

2.3 TEST PRINCIPLES

- Testing will be focused on client requirements, quality, and adjusted scope

- Procedures will be consistently followed and managed by the development team

- Testing processes will be rigid and amendable by the development team

- Testing will rebuild off existing bases to reduce redundancy

- Testing environment and data must mirror potential production environment and data

- Testing must be repeatable, isolated, measured, and reportable

- Testing will be divided into separate phases with specific goals

- There will be entrance and exit criteria.

2.4 DATA APPROACH

Data for functional testing will be pre-determined and loaded into the system prior to testing. This data must represent realistic production data in a plausible environment.

2.5 SCOPE AND LEVELS OF TESTING

2.5.1 EXPLORATORY

PURPOSE: the purpose of this test is to make sure critical defects are removed before the next levels of testing can start

SCOPE: First level navigation, admin modules, basic backend, display, interface, and start-up

TESTERS: Development team

METHOD: this exploratory testing is carried out in the application without any test scripts and documentation

TIMING: at the beginning of each cycle

2.5.2 FUNCTIONAL TEST

PURPOSE: Functional testing will be performed to check the functions of application. The functional testing is carried out by feeding the input and validates the output from the application.

SCOPE: The below table provides details about the scope of functional tests.

User	Scenarios	Sub Levels	Complexity	No. of Cases	Neg. Cases
Owner/Vet	Login Page	Login	Medium	1	1
		Logout	Medium	1	
Owner	Log Submission	Submit Seizure Log	Complex	10	1
		Submit Medicine Log	Complex	10	1
		Submit Other Log	Complex	10	1
Vet	Pet Profile View	View Logs	Medium	1	

PLACEHOLDER: MAY MOVE TO SEPARATE EXCEL DOCUMENT FOR VIEWING EASE

TESTERS: Development team

METHOD: The test will be performed according to Functional scripts

TIMING: after Exploratory test is completed.

TEST ACCEPTANCE CRITERIA

1. Approved functional specification document and use case documents must be available prior to start of test design phase
2. Test cases approved and signed-off prior to start of Test execution
3. Development completed, unit tested with pass status and results shared to development team to avoid duplicate defects

4. Test environment with application installed, configured and ready to use state

Sign-off	Readiness
•Approved Functional Specification Document •Approved Use cases •Approved Test cases	•Development completed & unit tested •Application deployed and system ready for testing on Test environment •Production like data is available to test all functionalities. •Defect fixes planned based on Defect triage (Unit Testing) and evaluation criteria

TEST DELIVERABLES

S.No.	Deliverable Name	Author	Reviewer
1.	Test Plan	Dev Team	James/Josh
2.	Functional Test Cases	Dev Team	James/Josh
3.	Logging Defects	Dev Team	James/Josh
4.	Daily/weekly status report	Dev Team	James/Josh
5.	Test Closure report	Dev Team	James/Josh

MILESTONE LIST

The milestone list is tentative and may change due to below reasons

a) Any issues in the system environment readiness
b) Any change in scope/addition in scope as suggested by dev team or client
c) Any other dependency that impacts efforts and timelines

Functional	Start Date	End Date
Test Execution	12/12/2018	1/1/2019
First navigation, pet owner module (Cycle 1)	12/12/2018	12/16/2018
Development team 1 day	12/17/2018	12/17/2018
Retest	12/18/2018	12/18/2018
First navigation, pet owner module (Cycle 2)	12/19/2018	12/21/2018
First navigation, vet module (Cycle 1)	12/21/2018	1/1/2019

PLACEHOLDER: MAY MOVE TO SEPARATE DOCUMENT FOR VIEWING EASE

2.5.3 USER ACCEPTANCE TEST

PURPOSE: this test focuses on validating the business logic. It allows the client to complete one final review of the system prior to deployment.

TESTERS: the UAT is performed by end users or the client

METHOD: Development team writes the UAT test cases based on the inputs from client and end users.

TIMING: After all other levels of testing (Exploratory and Functional) are done. Only after this test is completed the product can be released to production.

TEST DELIVERABLES

S.No.	Deliverable Name	Author	Reviewer
1.	UAT Test Cases	Development Team	Client/Dev Team

2.6 TEST EFFORT ESTIMATE

Test effort estimate unavailable in initial proceedings.

3. EXECUTION STRATEGY

3.1 ENTRY AND EXIT CRITERIA

- The entry criteria refer to the desirable conditions in order to start test execution; only the migration of the code and fixes need to be assessed at the end of each cycle.
- The exit criteria are the desirable conditions that need to be met in order proceed with the implementation.
- Entry and exit criteria are flexible benchmarks. If they are not met, the development team will assess the risk, identify mitigation actions and provide a recommendation.
- Entry criteria to start the execution phase of the test: the activities listed in the Test Planning section of the schedule are 100% completed.
- Entry criteria to start each cycle: the activities listed in the Test Execution section of the schedule are 100% completed at each cycle.

Exit Criteria	Dev Team	Notes
100% Test Scripts executed		
95% pass rate of Test Scripts		
No open Critical and High severity defects		

95% of Medium severity defects have been closed		
All remaining defects are either cancelled or documented as Change Requests for a future release		
All expected and actual results are captured and documented with the test script		
All test metrics collected based on reports from HP ALM		
All defects logged in HP ALM		
Test Closure Memo completed and signed off		
Test environment cleanup completed and a new back up of the environment		

3.2 TEST CYCLES

- There will be two cycles for functional testing. Each cycle will execute all the scripts .
- The objective of the first cycle is to identify any blocking, critical defects, and most of the high defects. It is expected to use some work-around in order to get to all the scripts.
- The objective of the second cycle is to identify remaining high and medium defects, remove the work-around from the first cycle, correct gaps in the scripts and obtain performance results.
- UAT test will consist of one cycle.

3.3 VALIDATION AND DEFECT MANAGEMENT

- It is expected that the testers execute all the scripts in each of the cycles described above. However it is recognized that the testers could also do additional testing if they identify a possible gap in the scripts. This is especially relevant in the second cycle.
- The defects will be tracked through the Defect document by the development team.

- It is the responsibility of the tester to open the defects, link them to the corresponding script, assign an initial severity and status, retest and close the defect; it is the responsibility of the development team as a whole to review the severity of the defects.

Defects found during the Testing will be categorized according to the bug-reporting tool “Mercury HP ALM” and the categories are:

Severity	Impact
1 (Critical)	▪ This bug is critical enough to crash the system, cause file corruption, or cause potential data loss ▪ It causes an abnormal return to the operating system (crash or a system failure message appears).

	▪ It causes the application to hang and requires re-booting the system.
2 (High)	▪ It causes a lack of vital program functionality with workaround.
3 (Medium)	▪ This bug will degrade the quality of the System. However, there is an intelligent workaround for achieving the desired functionality - for example through another screen. ▪ This bug prevents other areas of the product from being tested. However other areas can be independently tested.
4 (Low)	▪ There is an insufficient or unclear error message, which has minimum impact on product use.
5(Cosmetic)	▪ There is an insufficient or unclear error message that has no impact on product use.

3.4 TEST METRICS

Test metrics to measure the progress and level of success of the test will be developed. The below are some of the metrics

Report	Description	Frequency
Test preparation & Execution Status	To report on % complete, %WIP, % Pass, % Fail Defects severity wise Status – Open, closed, any other Status	Weekly / Daily (optional)
Daily execution status	To report on Pass, Fail, Total defects, highlight Showstopper/ Critical defects	Daily
Project Weekly Status report	Project driven reporting (As requested by PM)	Weekly – If project team needs weekly update apart from daily and there is template available with project team to use.

3.5 DEFECT TRACKING AND REPORTING

Defect tracking will be done by the development team and tracked through a Defect spreadsheet document.

4. TEST MANAGEMENT PROCESS

4.1 TEST MANAGEMENT TOOL

Need to spike management tool.

4.2 TEST DESIGN PROCESS

- The tester will understand each requirement and prepare corresponding test case to ensure all requirements are covered.
- Each test case will be mapped to use cases.
- Each of the test cases will undergo review by the development team and the review defects are captured and shared with the rest of the team.
- During the preparation phase, developers will use the prototype, use case and functional specification to write step by step test cases.

4.3 TEST EXECUTION PROCESS

- Once all Test cases are approved and the test environment is ready for testing, tester will start a exploratory test of the application to ensure the application is stable for testing.
- Any sever defects in exploratory testing will be directed to whole development team.
- Each tester performs step by step execution and updates the executions status. The tester enters Pass or Fail Status for each of the step directly into tracking table.
- If any failures, defect will be raised in Defect tracking document
- Daily Test execution status as well as Defect status will be reported to all developers
- Developer team will participate in defect triage meetings in order to ensure all test cases are executed with either pass/fail category.
- This process is repeated until all test cases are executed fully with Pass/Fail status.
- During the subsequent cycle, any defects fixed applied will be tested and results will be updated in Defect tracking.

4.4 TEST RISKS AND MITIGATION FACTORS

Risk	Prob.	Impact	Mitigation Plan
SCHEDULE Testing schedule is tight. If the start of the testing is delayed due to design tasks, the test cannot be extended beyond the UAT scheduled start date.	High	High	• The testing team can control the preparation tasks (in advance) and the early communication with involved parties. • Some buffer has been added to the schedule for contingencies, although not as much as best practices advise.
RESOURCES	Medium	High	Holidays and vacation have been estimated and built into the schedule; deviations from the

Risk	Prob.	Impact	Mitigation Plan
Not enough resources, resources on boarding too late (process takes around 15 days.			estimation could derive in delays in the testing.
DEFECTS Defects are found at a late stage of the cycle or at a late cycle; defects discovered late are most likely be due to unclear specifications and are time consuming to resolve.	Medium	High	Defect management plan is in place to ensure prompt communication and fixing of issues.
SCOPE Scope completely defined	Medium	Medium	Scope is well defined but the changes are in the functionality are not yet finalized or keep on changing.
Natural disasters	Low	Medium	Teams and responsibilities have been spread to two different geographic areas. In a catastrophic event in one of the areas, there will resources in the other areas needed to continue (although at a slower pace) the testing activities.
Non-availability of Independent Test environment and accessibility	Medium	High	Due to non availability of the environment, the schedule gets impacted and will lead to delayed start of Test execution.
Delayed Testing Due To new Issues	Medium	High	During testing, there is a good chance that some “new” defects may be identified and may become an issue that will take time to resolve. There are defects that can be raised during testing because of unclear document specification. These defects can yield to an issue that will need time to be resolved. If these issues become showstoppers, it will greatly impact on the overall project schedule. If new defects are discovered, the defect management and issue management procedures are in

Risk	Prob.	Impact	Mitigation Plan
			place to immediately provide a resolution.

4.5 COMMUNICATIONS PLAN AND TEAM ROSTER

Development Team:

Joshua Peterson

James Eckler

Primary communication through team chatroom, mobile, and email.

4.6 ROLE EXPECTATIONS

4.6.1 DEVELOPMENT TEAM

Takes role of project managers, testing team, business analyst, development team, and technical leads.

5. TEST ENVIRONMENT

Pet Seizure Tracking servers will be hosted at _____.
Database backend provided by _____
Authentication provided by _____

An Android environment with API 19: Android 4.4 (KitKat) or later