TESTING ON REAL ESTATE MANAGEMENT SYSTEM

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1. Abstract

Testing is a critical phase of SDLC, which ensures the quality and the performance of the product.

As Real Estate Market is growing, agility is the key to success; the Real Estate technologist would like to change the application as the need arises. This paper gives an insight on what are the different challenges faced in Real Estate Management Systems and also how to overcome these challenges. It would also speak about the importance of time and the approach of testing in Real Estate Management Systems.

2. Introduction

The Real Estate Management System (REMS) has to address various needs of different Real Estate Managers, who are using the system. This means that the system undergoes a lot of changes in a short span of time. As the enhancements and changes are implemented on the system, the time factor involved in testing the product and meeting the deadline becomes extremely important.

Every client using the REMS may have a different environment setup, so it becomes equally important to test the application on different environments. As the Real Estate Market grows, new clients may buy the product and existing client will go for an upgrade. Hence the challenge here is to test the deployment of the Product for an upgrade

as well as for a new install.

Another important aspect, which should be considered, is the product integration with other 3rd party tools. For example a REMS probably be integrated with reporting system, work flow engine, document management system etc. Hence testing of these tools with the Real Estate Management System plays a vital role.

This paper presents an approach for testing Real Estate Management System.

3. The General Challenges Faced in Real Estate Management System

3.1. Impact off change is not known. Changes to any functionality may create issues in other functional areas.

3.2. The volume of the test cases is very large and hence it becomes very difficult to execute the test case over the application in a shorter period of time on different environments.

3.3. Lack of time to verify the fixed issues on different environments

3.4. The communication between the Product Manager and the testing team in understanding the domain becomes a major challenge.

3.5. Deployment testing

4. Approach to tackle the challenges

4.1. The impact of change is not known, changes to any functionality may cause problems in other areas.

The Real Estate Manager comes with many change requests; the development team analyzes the change and implements the change. Once the Change Request is implemented the development team gives a detail report on which areas or modules the change may be affected. The development team then generates the report based on the code change they have performed. Hence it becomes easy for the testing team to focus only on those areas for which the change has been done. This way the test engineer can save a lot of time where in he/she can avoid testing non affected functional areas.

4.2. The volume of the Test Case is very larger and hence it becomes very difficult to execute the test case over the application in a shorter period of time on different environments.

Time is an important factor in testing in REMS as the changes or enhancement is brought in the application, it is not possible to test the entire application in a short period of time in different environments. So the challenge here is how to perform a complete regression testing on the application in different environments in a short span of time.

So in this case automation plays a vital role, as application grows and evolves the size of regression test suite increases. If the regression test cases are automated then the scripts can be used to run on application on different environments and capture results in a short period of time. The advantage of using automation is to confirm the stability of the product that is been handed over to QA for testing. Another proactive

approach is to run the automation scripts in the development environment before handing over to QA to make sure that the product is free of regression bugs.

When Automation Testing is in place then more focus can be given for manual testing on new functionality added in the upcoming release. The release could be a major one or a hot fix. However after every release sufficient time should be provided so that all of the newer functionality can be automated. Using this approach we will have less manual intervention and better product quality achieved.

Hence it is extremely important that we have automation suite for the system so that the quality of the product delivered is stable and consistent.

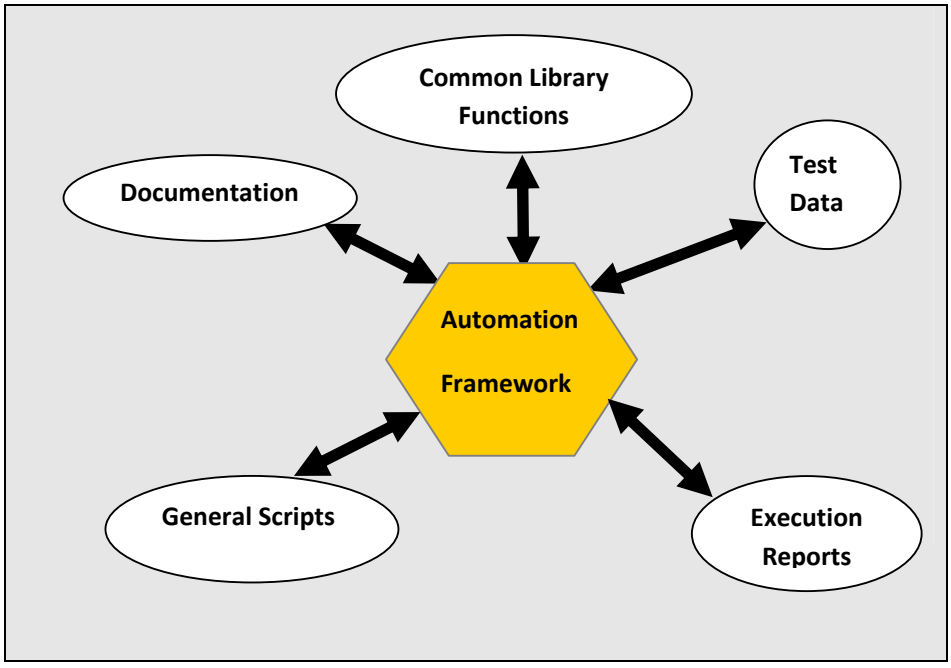

Figure 1. Automation Framework followed in REMS

4.3. Lack of time to verify the fixed issues on different environments

It is more important to verify the issues before we start executing the regression test case suite because if certain issues are failed then it can be assigned to the developers to fix it again. Hence it gives more time for the developers to fix the issue but if we verify the issues at the end of the regression cycle then it would be difficult for the developers to fix the issue in short time and release a build to QA.

Hence a considerable amount of time should be allocated in the Test Plan for verification of issues at the Start of the Regression Cycle.

4.4. The communication between the Product Manager or Business Analyst and the Testing Team in understanding the requirement becomes a major challenge.

Each and every requirement should be documented and the product manager should communicate the requirement to development team and testing team. Everyone should have the same knowledge about the product. Once the development team implements the requirement a demo should be scheduled to the product manager and the testing team.

The Testing team should then come up with the Test Cases and it should be reviewed by the Product Manager and the developer who implemented the new functionality/enhancement.

4.5. Deployment Testing becomes a major challenge in Real Estate Management System.

Every client who purchases the REMS can have a different environment setup, so deployment testing becomes a very important activity in Testing REMS.

One of the best approaches followed for deployment testing would be to setup virtual servers and perform a deployment testing. The virtual server can be cleaned up once the deployment testing is over.

Listed below are the some of the environments possibly used by the clients.

- SQL Server + 64 Bit Machine + BO (Business Objects)
- SQL Server + 32 Bit Machine + BO (Business Objects)
- Oracle + 64 Bit Machine + BO (Business Objects)
- Oracle + 32 Bit Machine + BO (Business Objects)

5. Knowledge Management

Knowledge Management becomes a key aspect of Real Estate Management Systems because.

5.1. Real Estate Management is a vast domain having lot of functionalities which are interdependent. It becomes an important aspect that the whole team has a common understanding of the system rather than single person becomes an expertise.

5.2. The Real Estate Managers do frequent changes in the requirement, so the changes performed have to be communicated to the entire team and should be documented.

5.3. A single knowledge base (artifacts) should be available so that the entire team across the globe can refer to the same knowledge base and have a common understanding of the system.

5.4. Whenever one has equal knowledge of the application, it gives a lot of advantage to the entire team working on it. An example would be in absence of a team member; someone else can take up the work and complete it.

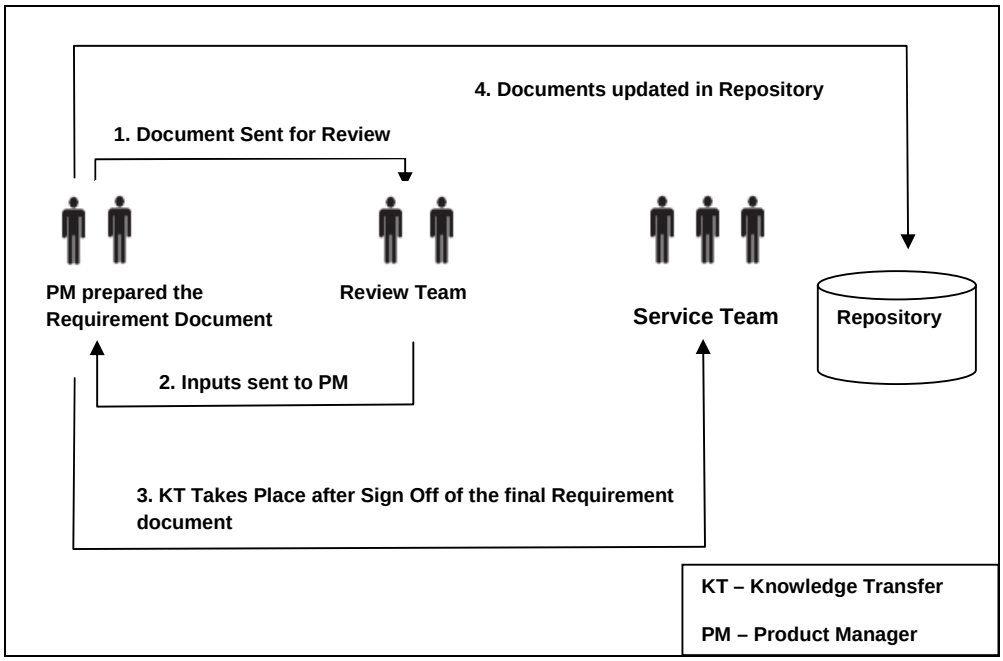

Figure 2 . Knowledge Transfer Process in REMS

6. Overall Testing Approach Followed In Real Estate Management Systems

6.1. A Test plan is prepared by the QA Manager, which contains the following line items

a. Resources allocation for Modules.

b. Time required for testing

c. The no of cycles required for testing the product.

d. The Environments on which the products will be tested.

e. The plan also speaks about the automation testing and performance testing.

6.2. Testing Requirement is analyzed and KT happens from product managers.

6.3. Testing Design is a phase where the QA team will write the test cases for each of the module. Internal review takes place of the test cases written and is submitted for the Product Manager for final review.

6.4. Before the build is released to QA, the automated scripts will be executed on a single production environment to know the stability of the build. If the build is stable enough then it will be released to the QA for testing.

6.5. The QA team deploys the build on various environments and executes the automated scripts on

them. In parallel manual testing can be done on the newer functionality.

6.6. As each cycle is completed a testing report is generated and the report will be sent to the entire product team by the QA manger with a test metrics.

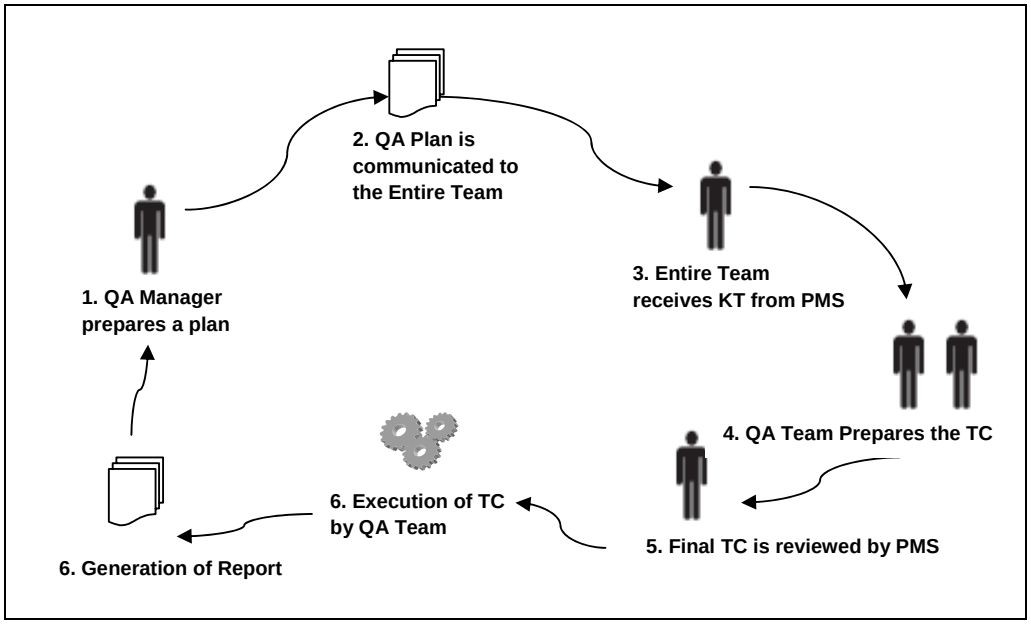

Figure 3. Overall Testing Approach in REMS

7. Conclusion

When a proper test plan is prepared with requirement well analyzed, proper test case prepared and automation scripts in place, it offers great benefits and is therefore worth considering. A similar approach followed in any real estate managements system would yield better results with well utilization of time and resources efficiently.

8. About The Author

Arun Kumar K, I work as a Test Engineer in MindTree Limited. I have 2 years of experience in IT Industry. I started my career working on testing projects on Real Estate Domain. I have worked on manual as well as automation testing.