

The Effective New Frame Work for Mind Mapping Matrix Test Case Techniques

K. Rajasekaran,¹ T.K.Nithyarao,²

Department, of Computer Science Dhanraj Baid Jain College Chennai India.

Krs.Salem@Gmail.Com

Department of Computer Science, Mphil Scholar Dhanraj Baid Jain College Chennai India.

Abstract:- In This Research paper proposes a new technique for improving the efficiency of software testing this method is a great way for you to categorize and organize the ideas you brainstormed and identify their relationships. By using a single page or space you can already place a huge amount of information and check its connections. Making connections is easier to do because you have all the information about a particular topic in a single glance. And using Traceability Matrix test case techniques it keeps track that each business requirement has been tested in test cases mentioned. It ensures that each and every requirement of the project has been covered through test cases. Test coverage has been done completely or not. It confirms that there is no any inconsistency between requirement documents. It helps us to keep focus on execution of test cases with keeping in mind the business requirements. A Mind Map is a graphical representation of an idea or concept. In terms of testing, a Mind Map uses symbols, colors, lines and images to represent the various phases of testing followed by activities under each phase. In short, a Mind Map shows a visual representation of the testing function in its entirety and provides a creative way to logically plan the testing. Mind Maps drawn through tools can have notes, links, nodes that can be unfolded and folded, zoomed and searched. All these make the Mind Map versatile and allow adding more details into the map. Mind Maps can be used in variety of testing activities like requirements analysis, test design, test planning, measuring test coverage etc. In this Research work they can also concentrate mind mapping test case design In this Implementing and use mind maps to record and monitor my project progress, schedules, team, leaves, to-do's, meetings, issues, risks etc. These days we use multiple tools for project management hence it becomes difficult to navigate and get information from different systems. Mind maps are very easy to maintain and are flexible to changing requirements.

Keywords:- Software Testing, Mind Mapping Test Cases, Requirements, Test Coverage.

I. INTRODUCTION

The mind map is a visual diagram used to organize information. This can be called as a visual thinking tool the tool have used mind map. The research allows complex information to be presented in a simplified visual form. The mind map is created around a single concept. The mind map is represented as an image in so many ideas which the associated and added. Major concept is connected directly to the central idea, and other thinking ideas branch out from those. Mind map is a great tool for note taking, planning, studying, brainstorming etc. mind-mapping over text notes and it proved to be a great aid to revise and recall the concepts quickly. This is because the information in mind map is structured in a way that mirrors exactly how the brain functions - in a radiant rather than linear manner. A Mind Map literally 'maps' out your thoughts, using associations, connections and triggers to stimulate further ideas. The design test cases needed for requirements, mind map is one of the very best techniques to provide lot of coverage to better test conditions. For manual testers and automated tester, the concept provides a better platform to generate and execute ideas in better effectively. It will be really very tuff and challenging for manual testers during regression cycle time. Although the Mind map technique is conventional, and very creative method in implementing innovative ideas into graphical representation helps testers create the mind map with nodes rather than test cases. The tester has written the test cases in test management tool it's difficult to interlink between the test conditions and to track the bug. The features of mind map tools; the user and tester can see the links with integration points and influences. After the tester do mind mapping techniques, if we fetch the test conditions in test management tool, it will be easier.

A. Mind Map Approaches

The Mind map have so many of approach provided first one Top-down test approach, right-to-left test approach and left to right test approach. However, while reading, the eye movement scans the whole content in a non-linear fashion. Likewise, a graphical approach to present the lot of ideas and perceptions by means of a diagram, since the following 3rd century and they coined as Mind Map techniques. The

mind map technique is a very useful and a creative method to visualize and brainstorm the plans where the ideas are crystallized in a centre image.

B. Key Features in Mind Mapping

- The Mind Map a technique exists ever until the creativity in mind exists – It’s a technique to increase our creativity.

- The Test cases creation time is very less and reduced by changing the requirements flexibly into maps.
- The Defects can be tracked very easily for the user.
- Providing more and more better test condition and vast test coverage area.
- Easy to convert and create mind map tree into test cases by readily available tools.
- To reduces the test spent and easy to generate & maintain.

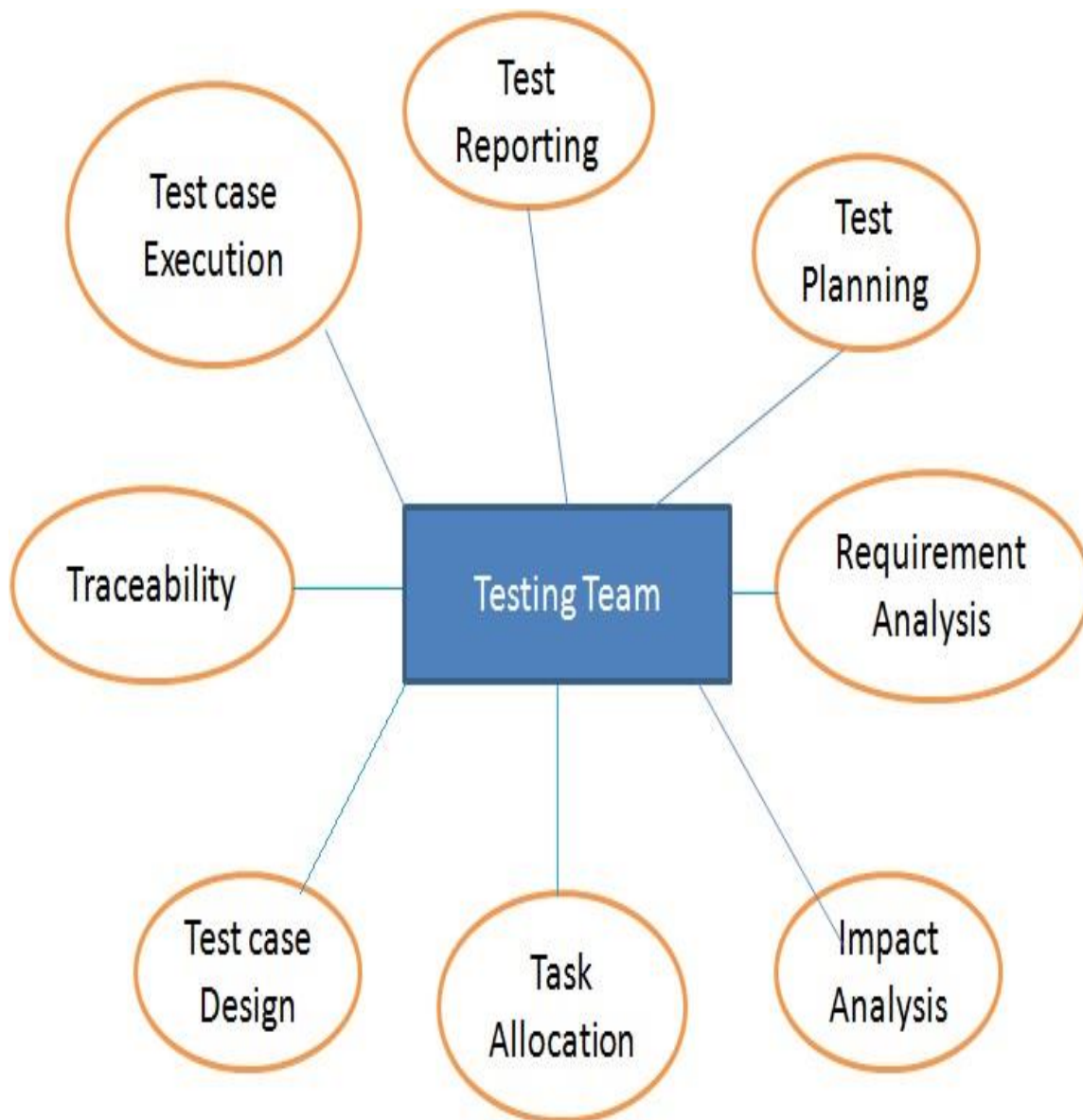


Fig-1. Mind Mapping Techniques

C. *Mind Mapping Techniques in Software Testing*

The above diagram or Picture speaks a thousand words'. It is a universal truth that our brain processes images and graphics faster than words. It is considered as a more acceptable learning tool. Individuals consider recalling visual acts better than learning things through traditional reading methods. The new technique is a tool to organize and present information by using graphics. It includes notes and links that can be folded-unfolded, zoomed and searched all over the document.

These features make the Mind Map versatile and allow detailed description. It broadens person's perspective to look beyond the obvious. It also helps to present ideas creatively with required analysis. It can be used to highlight different areas with different colours to analyse further. The software development life cycle has multiple phases each and every phase has different processes and procedures. Mind Map can be used to present problem solving ideas and new innovative Structural presentations, requirement gathering, development planning, and team work planning to enlist the team activities.

II. RELATED WORK

The author described in this paper [1] Salzburg-Ludwig, Karin research on mind maps in learning by mentally retarded children Paper presented at the European Conference on Educational Research, University of Goteborg, 10-12 September 2008 The test supervisors summarised that the pupils of the experimental groups worked more motivated and more persistently and there were lesser behaviour problems during work. Summarising the subject matter with the help of key words in a hierarchically ordered structure made it possible for the pupils of the experimental groups to memorise more knowledge for a longer period of time.

The author Discussed in the Paper [9] Otaduy, I., and O. Diaz. "User acceptance testing for Agile-developed web-based applications: Empowering customers through wikis and mind maps." *Journal of Systems and Software* (2017). Agile methodologies put stringent demands on UAT, if only for the frequency at which it needs to be conducted. In-person meetings might need to be complemented with asynchronous ways for customers and developers to collaborate during UAT. We coin the term "self-paced UAT" to denote asynchronous sessions where customers perform UAT on their own using a scaffolding previously set by developers. Test scaffolding helps customers to effectively perform UAT (keeping the focus through testing hints) and efficiently (automatically

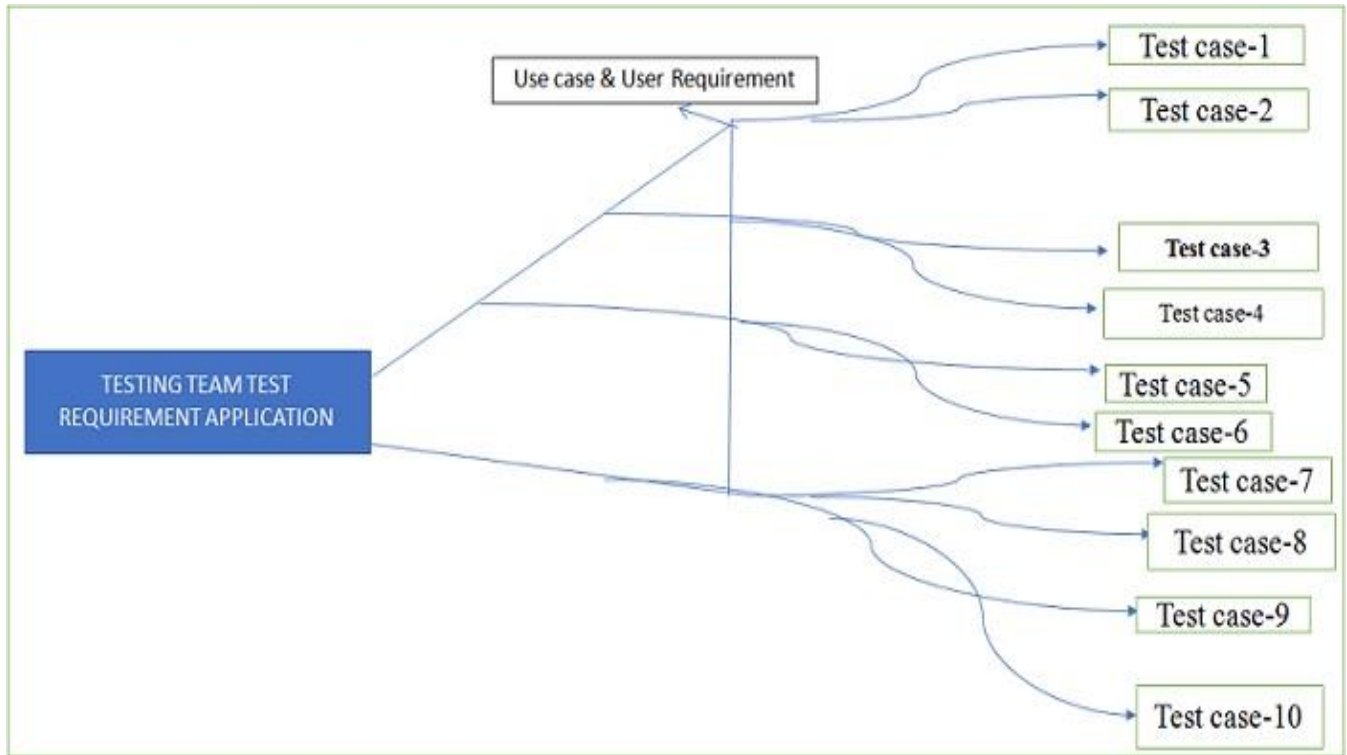
setting customers in ready-to-go scenarios through kickoffs). In addition, mind maps are proposed to give structure and context to UAT sessions. In this way, Record Replay is not launched in a vacuum but framed within a test map. First evaluations are promising. Subjects specially valued the chance of conducting UAT at their own pace. No travel, no agenda sync problems. They all prized the opportunity to add comments during test recording (the best rated feature in Liker scales) and to report feedback with a single click. Test parameterization was specially appreciated by the subjects who usually checked form-intensive websites.

In the Paper [11] Paul Farrand, Fearzana Hussain, Enid Hennessy Author described The efficacy of the 'mind map' study technique Mind maps provide an effective study technique when applied to written material. However before mind maps are generally adopted as a study technique, consideration has to be given towards ways of improving motivation amongst users.

In this paper [12] Author Karapanagiotidis, Theodoros, et al. "Tracking thoughts: Exploring the neural architecture of mental time travel during mind-wandering." *Neuroimage* 147 (2017): 272-281. Increased activations by positive valence in FR were in brain regions crucial to emotion recognition and social interaction. Increased activation of the promoter cortex may serve as a compensatory mechanism as FR subjects may have to exert more effort on processing the stimuli, as has been found earlier in schizophrenia. Failure to deactivate PFC structures may imply error in the default mode network. Abnormal PFC function in FR was also suggested by PPI,

III. THE NEW FRAME WORK FOR MIND MAPPING TRACEABILITY MATRIX

The new frame work implementing the traceability matrix is an essential tool for every tester to analyze and improving and increasing the test coverage. The research can use a mind map instead of a tabular traceability matrix. To create a traceability mind map - add nodes of all the test group-1, test group-2. Draw branches from every module and associate all its user requirements as subsequent nodes. Now link the test cases for each and every functionality. You can link the requirement number of the test management tool. This ensures that you have not missed out writing test cases for any user requirement. This mind map gives you the birds-eye view of your test coverage. You can identify the areas where you need to strengthen your coverage.



Test Case Mapping Fig-2

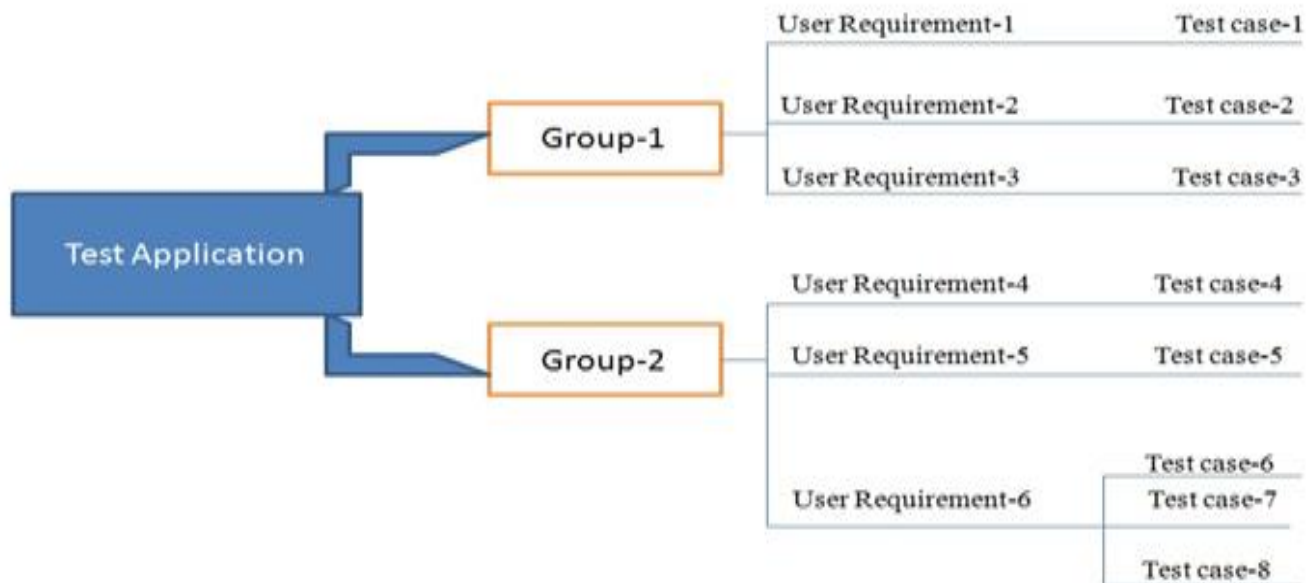


Fig-3. Traceability Matrix Mind Map Test Cases

The new innovative idea of Mind maps are an efficient way of creating lean test cases. It reduces the time required for creating test cases yielding better results. Mind maps are very

easy to maintain and are flexible to changing requirements. Draw branches from every user Requirements /Groups and associate all its functionalities as sub-nodes. Start adding test

ideas/test case for each and every functionality. A traceability matrix is important for every tester to analyze and improving the test coverage. To create a traceability mind map – we can add nodes of all the Group-1, Group-2. Draw branches from every module and associate all its user stories as subsequent nodes. Now link the test cases for each and every functionality. The user can link the requirement number of the test management tool. This ensures the tester have not missed out writing test cases for any user Requirement. In this paper can identify the areas where to strengthen your coverage as well.

IV. CONCLUSION

In Effective Mind Mapping Traceability test cases strategy is a very effective manner In this Research work find out organizations have beneficially Reduces time to identify scenarios and less cost, Improves our creativity Can able to cover more areas, Easy for documentation Attractive way to present Can be extracted in comfortable formats like jpg, PDF also mind maps are very easy to maintain and are flexible to changing requirements. And Mind maps are an efficient way of creating lean test cases. It reduces the time required for creating test cases yielding better results. Mind maps are very easy to maintain and are flexible to changing requirements.

V. FEATURE WORK

Collaborative mind mapping tool that simplifies complex thinking Communication and Collaboration Streamline and improve how you communicate with your team and as a team. Problem Solving Collaborative mapping makes it easier to show the relationships between different functions and groups, as well as gaps. Get a better understanding of problems, generate more solution ideas, and reach better results.

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