Experiment No.: 3

Title: Preparation of Software change request and report in SCM

Batch: A2   **Roll No.: 16010421073**   **Experiment No.: 3**

Aim: To Prepare Software change request and report in SCM
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Resources needed: Internet Explorer, LaTex Editor
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Theory

Software change management is an umbrella activity that aims at maintaining the integrity of software products and items. Change is a fact of life but uncontrolled change may lead to havoc and may affect the integrity of the base product. Software development has become an increasingly complex and dynamic activity. Software change management is a challenging task faced by modern project managers, especially in a environment where software development is spread across a wide geographic area with a number of software developers in a distributed environment. Enforcement of regulatory requirements and standards demand a robust change management. The aim of change management is to facilitate justifiable changes in the software product.

The following are the objectives of software change management process:

1. **Configuration identification**: The source code, documents, test plans, etc. The process of identification involves identifying each component name, giving them a version name (a unique number for identification) and a configuration identification.

2. **Configuration control**: Cntrolling changes to a product. Controlling release of a product and changes that ensure that the software is consistent on the basis of a baseline product.

3. **Review**: Reviewing the process to ensure consistency among different configuration items.

4. **Status accounting** : Recording and reporting the changes and status of the components.

5. **Auditing and reporting**: Validating the product and maintaining consistency of the product throughout the software life cycle.

Software Change Request Format

1.0 Change request Identification

1.1 Name, identification and description of software configuration item(s): The name, version numbers of the software configuration is provided. Also, a brief description of the configuration item is provided.

1.2 Requester and contact details: The name of the person requesting the change and contact details

1.3 Date, location, and time when the change is requested

2.0 Description of the change

2.1 Description : This section specifies a detailed description of the change request.

  2.1.1 Background Information, Background information of the request.

  2.1.2 Examples: Supporting information, examples, error report, and screen shoots

  2.1.3 The change : A detailed discussion of the change requested.

  2.2 Justification for the change : Detailed justification for the request.

  2.3 Priority : The priority of the change depending on critical effect on system functionalities

Software Change Report Format

1.0 Change report Identification

1.1 Name, identification and description of software configuration item(s): The name, version numbers of the software configuration item and a brief description of it.

1.2 Requester: The name and contact details of the person requesting the change.

1.3 Evaluator : The name of the person or team who evaluated the change request.

1.4 Date and time : When change report was generated. 2.0 Overview of changes required to accommodate request

2.0 Overview of changes required to accommodate request

2.1 Description of software configuration item that will be affected

2.2 Change categorization : Type of change, in a generic sense

2.3 Scope of the change : The evaluator's assessment of the change.

  2.3.1 Technical work required including tools required etc. A description of the work required to accomplish the change including required tools or other special resources are specified here

2.3.2 Technical risks : The risks associated with making the change are described.

3.0 Cost Assessment : Cost assessment of the requested change including an estimate of time required.

4.0 Recommendation

4.1 Evaluator's recommendation : This section presents the evaluator's recommendation regarding the change

4.2 Internal priority: How important is this change in the light of the business operation and priority assigned by the evaluator.

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Procedure:

Identify any two change requests and formulate prepare Software Change Request Format and Software Change Report Format

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Results: Software Change Request Format and Software Change Report Format.

Software Change Request: 1

- ## Software Change Request Format

  1.0) Change Request Identification

  1.1) Name, Identification, and Description of Software Configuration Item(s):

  Software Configuration Item: WeatherApp v1.0

  - *Description:* This is the initial release of the WeatherApp, version 1.0. It includes features for displaying current weather, weather forecasts, and basic user settings.

  1.2) Requester and Contact Details:

  - *Requester:* John Smith

  - *Contact Details:* john.smith@example.com, +1 (555) 123-4567

  1.3) Date, Location, and Time When the Change Is Requested:

  - *Date:* April 15, 2024

- *Location:* WeatherApp Development Team

- *Time:* 10:00 AM

2.0) Description of the Change

2.1) Description:

2.1.1) Background Information:

The WeatherApp v1.0 currently provides basic weather information but lacks an important feature: the ability for users to add custom locations to their favorites list.

2.1.2) Examples:

- *User Feedback:* Several users have requested the ability to save multiple locations for quick access to weather updates.

- *Error Report:* No specific error, but user experience can be enhanced by this feature.

2.1.3) The Change:

- Implement a "Favorites" feature in the WeatherApp where users can add, remove, and manage a list of favorite locations.

- Allow users to save frequently checked locations for quick weather updates.

- Users should be able to set a default location for quick access upon opening the app.

2.2) Justification for the Change:

- *Justification:* Enhancing user experience and engagement.

- *Benefits:* Increased user retention, improved user satisfaction, and more personalized weather updates.

2.3) Priority:

- *Priority:* High

- *Reason:* This change has a critical effect on user engagement and satisfaction with the app. It aligns with user expectations and industry standards.

- ## Software Change Report Format

  1.0 Change Report Identification

  1.1 Name, Identification, and Description of Software Configuration Item(s):

  - *Software Configuration Item:* WeatherApp v1.0

  - *Description:* This is the initial release of the WeatherApp, version 1.0. It includes features for displaying current weather, weather forecasts, and basic user settings.

  1.2 Requester:

  - *Requester:* John Smith

  - *Contact Details:* john.smith@example.com, +1 (555) 123-4567

  1.3 Evaluator:

  - *Evaluator:* Jane Doe

  - *Evaluation Team:* WeatherApp Development Team

  1.4 Date and Time:

  - *Date:* April 25, 2024

  - *Time:* 9:00 AM

  2.0 Overview of Changes Required to Accommodate Request

  2.1 Description of Software Configuration Item that Will Be Affected:

  - The "Favorites" feature will be added to the WeatherApp v1.0.

  - This change affects the user settings and data storage components of the app.

2.2 Change Categorization:

- *Type of Change:* Functional Enhancement

- *Scope of Change:* Moderate

2.3 Scope of the Change:

2.3.1 Technical Work Required:

- Implement user interface elements for adding, removing, and managing favorite locations.

- Develop backend functionality to store and retrieve user-defined favorites.

- UI testing and integration with existing features.

- Tools Required: IDE (Integrated Development Environment), Backend Server

2.3.2 Technical Risks:

- Potential data synchronization issues with multiple devices.

- User data privacy and security considerations.

3.0 Cost Assessment

3.1 Time Estimate:

- *Estimated development time:* 40 hours

- *Testing and QA:* 10 hours

- *Total estimated time:* 50 hours

4.0 Recommendation

4.1 Evaluator's Recommendation:

- *Recommendation:* Proceed with implementing the "Favorites" feature.

- *Reasoning:* The feature enhances user experience and aligns with user expectations.

4.2 Internal Priority:

- *Priority:* High

- *Reasoning:* The "Favorites" feature has a critical effect on user engagement and satisfaction. It addresses a common user request and adds significant value to the app.

Software Change Request: 2

- ## Software Change Request Format

  1.0 Change Request Identification

  1.1 Name, Identification, and Description of Software Configuration Item(s):

  - *Software Configuration Item*: WeatherApp v1.0

  - *Description:* This is the initial release of the WeatherApp, version 1.0. It includes features for displaying current weather, weather forecasts, and basic user settings.

  1.2 Requester and Contact Details:

  - *Requester:* Sarah Johnson

  - *Contact Details:* sarah.johnson@example.com, +1 (555) 987-6543

  1.3 Date, Location, and Time When the Change Is Requested:

  - *Date:* April 20, 2024

  - *Location:* WeatherApp Development Team

  - *Time:* 2:30 PM

  2.0 Description of the Change

  2.1 Description:

  2.1.1 Background Information:

- The WeatherApp v1.0 currently provides weather updates for a limited number of cities.

- Users have requested the ability to search for weather information for any location worldwide.

2.1.2 Examples:

- *User Feedback:* Many users travel frequently and want to check the weather of their destination cities.

- *Error Report:* No specific error, but users are unable to access weather data for some international locations.

2.1.3 The Change:

- Implement a "Search Location" feature in the WeatherApp.

- Users should be able to input any city or location worldwide and receive weather updates for that location.

- Use a reliable geocoding API to convert user input into geographic coordinates for accurate weather data retrieval.

2.2 Justification for the Change:

- *Justification:* Improving app usability for users traveling or interested in weather worldwide.

- *Benefits:* Enhanced user experience, increased app versatility, and broader user appeal.

2.3 Priority:

- *Priority:* Medium

- *Reason:* While not as critical as the "Favorites" feature, the "Search Location" feature is important for user convenience and app usability. It aligns with user needs and market expectations.

- ## Software Change Report Format

1.0 Change Report Identification

1.1 Name, Identification, and Description of Software Configuration Item(s):

- *Software Configuration Item:* WeatherApp v1.0

- *Description:* This is the initial release of the WeatherApp, version 1.0. It includes features for displaying current weather, weather forecasts, and basic user settings.

1.2 Requester:

- *Requester:* Sarah Johnson

- *Contact Details:* sarah.johnson@example.com, +1 (555) 987-6543

1.3 Evaluator:

- *Evaluator:* Michael Lee

- *Evaluation Team:* WeatherApp Development Team

1.4 Date and Time:

- *Date:* April 28, 2024

- *Time:* 11:00 AM

2.0 Overview of Changes Required to Accommodate Request

2.1 Description of Software Configuration Item that Will Be Affected:

- The "Search Location" feature will be added to the WeatherApp v1.0.

- This change affects the data retrieval and display components of the app.

2.2 **Change Categorization:**

- *Type of Change:* Feature Enhancement

- *Scope of Change:* Moderate

2.3 Scope of the Change:

2.3.1 Technical Work Required:

- Implement a search input field in the user interface.

- Integrate with a geocoding API to convert user input to geographic coordinates.

- Retrieve and display weather data for the searched location.

- Tools Required: Geocoding API, Backend Server, IDE

2.3.2 Technical Risks:

- Reliability and accuracy of the geocoding API.

- Handling edge cases for incomplete or ambiguous location inputs.

3.0 Cost Assessment

3.1 Time Estimate:

- *Estimated development time:* 30 hours

- *Testing and QA:* 8 hours

- *Total estimated time:* 38 hours

4.0 Recommendation

4.1 Evaluator's Recommendation:

- *Recommendation:* Proceed with implementing the "Search Location" feature.

- *Reasoning:* This feature improves app usability and expands user access to weather information.

4.2 Internal Priority:

- *Priority:* Medium

- *Reasoning:* While important for user convenience, the "Search Location" feature is not as critical as the "Favorites" feature. It enhances the app's versatility and user experience.

Questions:

1. **What is baseline? Explain the process of changes to baseline in detail.**

Ans: In project management, a baseline is a set of initial reference points that are used to measure progress and performance throughout the project's lifecycle. It's essentially the original plan against which you compare actual results to see how your project is progressing.

Process of Changes to Baseline:

1. **Establishing the Baseline:**

    Initially, the project manager, with input from the team and stakeholders, creates the baseline. This includes the:

    -   *Project scope:* What work will be done and what will not be done.

    -   *Schedule:* Timeline of when each task/activity will be performed.

    -   *Cost:* Budget allocated for the project.

2. **Documenting the Baseline:**

    Once these initial plans are established, they are documented and approved. This documentation is crucial as it serves as the benchmark against which all future progress is measured.

3. **Change Requests:**

    -   As the project progresses, changes are often inevitable due to various factors such as:

    -   New requirements.

    -   Errors or defects discovered.

    -   External factors like market changes.

4. **Change Control Process:**

    When a change is needed, it goes through a formal process called Change Control:

    -   *Change Identification:* Someone identifies the need for a change. This could be the project manager, team member, stakeholder, etc.

    -   *Change Request:* A formal request is made, detailing what needs to change, why, and the impact on scope, schedule, and cost.

- *Evaluation:* The change request is evaluated to understand its impact on the project. This might involve the project manager, team members, stakeholders, etc.

- *Approval:* Based on the evaluation, the change request is either approved or denied. Approval might require additional budget, time, or resources.

- *Documentation:* If approved, the change is documented, and the baseline is updated to reflect the change. This new baseline becomes the reference point going forward.

5. **Updating the Baseline:**

- If the change is approved, the baseline is updated to reflect the new scope, schedule, and cost. This becomes the new reference point for the project's progress.

- It's crucial to document these changes meticulously to maintain transparency and accountability throughout the project.

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Outcomes: CO3 : Demonstrate requirements, modeling and design of a system

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Conclusion: Thus we created a software change report and software change request for our weather forecasting website.

Grade: AA / AB / BB / BC / CC / CD /DD

Signature of faculty in-charge with date

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References:

Books:

1. Roger S. Pressman, Software Engineering: A practitioners Approach, 7th Edition, McGraw Hill, 2010.
2. Ian Somerville, Software Engineering, 9th edition, Addison Wesley, 2011.

3. John M. Nicholas, "Project Management for Business and Technology", 2nd edition, Pearson Education