UNIVERSITI POLY-TECH MALAYSIA

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<tr><td colspan="2">Lecturer Name:
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<tr><td colspan="2">Course Name and Course Code:
(ITC3033) - SOFTWARE PROJECT MANAGEMENT</td><td>Submission Date:
15/11/2024</td></tr>
<tr><td colspan="2">Assignment No. / Title Proposal:
REFLECTIVE</td><td>Extension & Late Submission:
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<tr><td>Assignment Type:
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Introduction

Software project management is the indispensable discipline for guiding the planning, execution, and delivery of software projects to meet scope, time, cost, and quality requirements. In a higher digitization world, where the demand to improve project management practices has gone aggressive, every company strives to produce high-quality software while moving ahead in solving sophisticated problems. Project management open-source tools are, therefore, becoming pivotal in such scenarios, whereby the facilitation of inexpensive adaptable solutions can be employed to ensure that there is a collaborative platform to track tasks and resources. In such cases, the project manager will ensure that the teams stay aligned and focused on productivity to deliver their results on time.

Problem Statement

Managing software projects involves balancing technical needs with organizational limits, which is challenging without structured guidance. PMI emphasizes ten key knowledge areas necessary in correctly managing a project, starting from scope and time management to stakeholder engagement. The said knowledge areas find their larger representation in five process groups, namely: Initiating, Planning, Executing, Monitoring and Controlling, and Closing. Identifying which process groups and knowledge areas demand the most time helps project managers allocate resources effectively. This report explores open-source tools, essential knowledge areas, and the process groups requiring the most time, highlighting the overall importance of software project management.

Open Source Tools

Open Project

With the correct strategy, OpenProject's use of agile boards (kanban boards), user-friendly Gantt charts, and a comprehensive suite of team collaboration tools—including document management, wikis and forums, basic chat, unlimited file uploads (up to 256MB), and meeting tools making it an excellent choice for agile project management. Even a built-in time-tracking tool is available.

Although OpenProject isn't the most user-friendly project management platform, there are a variety of tools available to assist users, such as clear and concise tutorials and videos. OpenProject is a worthwhile option when it comes to multi-project management software.

Pros for using this software:

- Good tool selection
- Exceptional level of security
- Clean and functional interface

Cons for using this software:

- Tricky to learn
- Few integrations
- Strange paid plans

Redmine

Redmine has a simple Gantt chart, calendar, and overview tools, and it can accommodate an infinite number of users and projects. Every project a user start has its own wiki, which also supports resource management, file sharing, and project news. Users must ensure that their firewalls are robust because security and privacy are only as good as their servers.

Redmine appears to be an outdated and extremely simple project management application. But after using it for a while, the user will discover that the program is strong and can be used

for project management, bug tracking, and other purposes. It is perfect for software development teams. However, because of the high learning curve, users can expect to spend time in the support forums.

Pros for using this software:

- Free to use
- Very versatile
- Great plugin support

Cons for using this software:

- Dated user interface
- Ridiculously hard to install
- Steep learning curve

Leantime

Leantime's strengths include its user-friendly interface, which many other visual project planning tools can adopt, and its simple task management features, which include time tracking, milestones, reports, and integrations.

Leantime provides a number of views, such as Gantt charts, lists, and kanban boards. Setting project deadlines, monitoring progress, establishing dependencies and subtasks, and viewing finished projects are all made simple by these tools. Additionally, there are project dashboards that show important data. In terms of security, hosted memberships come with two-factor authentication.Pros for using this software:

- Fantastic user interface
- Easy to pick up & use
- Fantastic user interface

Cons for using this software:

- Limited free plan
- Not many integrations
- Simple but confusing plans

Knowledge Areas

1. Integration Management
    - Discuss how we handle project coordination and integration of various processes, including setting up a project management plan and keeping all parts of the project aligned.
2. Scope Management
    - Describe processes for defining and controlling the project scope. Identify what deliverables, keep changes of scope under control and do not allow the project to grow beyond the boundary of what initially was determined as its intended scope.
3. Time Management
    - Explain the approach to scheduling project activities, including task sequencing, estimating durations, and tracking the project timeline.
4. Cost Management
    - Cover budget planning, estimating project costs, managing expenditures, and ensuring the project stays within budget limits.
5. Quality Management
    - Address how you ensure the project meets the required quality standards. This includes quality planning, assurance, and control.
6. Human Resource Management
    - Discuss organizing, managing, and leading the project team. This could include assigning roles, managing team performance, and handling conflicts.
7. Communications Management
    - Explain how information is communicated within the project team and to stakeholders, ensuring everyone is informed and engaged.
8. Risk Management
    - Cover identifying, analyzing, and responding to potential risks that could impact the project, as well as planning for risk mitigation and contingency.
9. Procurement Management
    - Describe how you manage purchasing goods or services required for the project, including vendor selection and contract management.
10. Stakeholder Management
    - Discuss identifying project stakeholders, understanding their needs and expectations, and keeping them engaged throughout the project lifecycle.

Longest to Implement Based on 5 Process Groups

Knowledge Area	Initiating	Planning	Executing	Monitoring & Controlling	Closing
Integration Management	Create project charter.	Plan development workflow.	Coordinate coding and testing.	Test and verify system integration.	Finalize system and deploy.
Scope Management	Define features (e.g., booking, payments).	Break features into specific deliverables.	Develop booking and payment systems.	Check feature implementation.	Validate all features delivered.
Time Management	Set high-level timeline.	Create detailed schedule for tasks.	Follow schedule for sprints and coding.	Monitor progress and adjust timelines.	Review project timeline and outcomes.
Cost Management	Estimate initial costs (hosting, tools).	Prepare detailed budget.	Manage expenses during development.	Track spending against budget.	Settle all payments.
Quality Management	Define quality standards (e.g., ease of use).	Plan testing strategy.	Perform functional and UI testing.	Fix bugs and ensure standards are met.	Ensure final product quality.
Resource Management	Identify team roles (e.g., developers).	Allocate team and tools.	Manage team workload and address issues.	Monitor resource utilization.	Release resources and wrap up.
Risk Management	Identify risks (e.g., timeline delays).	Plan mitigation strategies (e.g., backups).	Handle issues during development.	Monitor risks and take corrective action.	Evaluate overall risk impact.
Communications Management	Set up communication channels.	Plan regular updates (e.g., weekly meetings).	Share updates with stakeholders regularly.	Resolve stakeholder concerns.	Deliver final report.
Procurement Management	Identify tools and services needed.	Purchase hosting and APIs.	Integrate third-party services (e.g., payments).	Monitor vendor performance.	Close vendor contracts.
Stakeholder Management	Identify stakeholders (players, admins).	Plan how to meet their needs.	Gather feedback and make adjustments.	Address feedback and concerns.	Ensure stakeholder satisfaction.

1. Executing Took the Longest

   This is because executing phase involved implementing the website's core features, requiring significant effort in development and testing.

   Examples of Activities:

   - Frontend Development: Designing the user interface for court selection, booking, and profile management.
   - Backend Development: Building APIs for booking, user authentication, and payment integration.
   - Testing: Functional testing (e.g., ensuring users cannot double-book courts) and performance testing under high traffic.

2. Deliverables in Executing

Fully functioning booking system with features like:

- Real-time court availability.
- Secure payment gateway.
- Profile management for users and administrators.

Justification

The success of our badminton court booking website was largely dependent on software project management. We were able to stay on course, within budget, and concentrate on key aspects like simple booking and safe payments since it offered an organised method for each stage of definition, planning, execution, monitoring, and closing.

By clearly defining the project scope, we were able to stay on task and steer clear of pointless complexity. While risk management assisted us in anticipating and resolving possible issues, minimising disruptions, effective planning enabled us to allocate resources sensibly. We were able to improve the website into a useful tool by ensuring that it was in line with user needs through clear communication with stakeholders.

Overall, by keeping everything structured and goal-driven, software project management transformed our idea into a polished, user-friendly final result.

Conclusion

In concusion, Software project management is essential to the successful completion of projects because it makes sure that every stage, from inception to closure, is well planned and carried out. In order to accomplish project objectives, this thoughtful paper has emphasised the significance of utilising open-source tools and putting fundamental project management concepts like time, cost, and scope management into practice. The badminton court booking website was created as a practical and user-focused solution by methodically addressing issues, taking stakeholder input into account, and upholding quality standards. This project demonstrates how successful deliverables may be created from complicated ideas with rigorous management.

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