Analysis of report plan

**Introductory statement about the project:**

The project ‘Study Tracker’ is a software solution that aims to provide a simple way to help users stay organized and maximise their productivity based on the concept that individuals work more effectively in short bursts rather than in long sessions. By tracking the time spent on tasks or subjects whilst encouraging the habit of taking breaks through the usage of a count up or count down timer, this prevents users from being overworked and increases their awareness about the time spent in order for the user to concentrate on the task at hand and to help them develop better time management skills.

**Scope of the project:**

The following list provides a brief description of Study Tracker’s main features and functions that are essential to the functionality of the software solution:

The solution should feature:

* A user register, login and logout page
* A functional and adjustable timer
  + Users can select between a count down or a count up timer
* Break notifications
* A way to add and delete user inputted subjects or tasks
* A way to record the length of time spent on subjects or tasks
  + This will be done through the implemented timer
* A way to view the length of time spent on subjects or tasks
  + This will be done via a report
* A tutorial/help page
* A settings page
  + Allows users to manage their timer preferences, account and subject/tasks

**Helpfulness of initial plan:**

The initial plan was based on the scope of the project at the time and the dates of the milestones given at the start of the project. As only the dates of the milestones were given for the first part of the project (the analysis and design), the times allocated for the second parts of the project (the development and evaluation) were areas of least clarity at the beginning of the project. The tasks to be undertaken during the development stage of the project was another area of least clarity at the beginning of the project. As the analysis parts of the project had not been conducted yet, the features of the final solution to be developed had not been determined yet making the tasks allocated during the development stages at times inaccurate and different from the tasks that were eventually carried out. The final dates of the project were also shortened a few times, so the initial plan often greatly overestimated the time that could be spent developing the project. While both the initial project plan and the final version of the project plan both allocated the same length of time for the development of the project (14 weeks), many of the tasks in the final project plan had to be eventually undertaken at the same time as other tasks and had shorter times allocated to them compared to the initial project plan. For example, around 3 weeks were allocated to the implementation of the user register, login and logout features in the initial plan compared to the 1 week that was allocated in the final project plan.

While the initial project plan was not too useful to plan out the project during the development and evaluation stages of the project, it was helpful in setting up a rough idea of the project’s overall lifespan and helped to ensure that the development of the project was going at a reasonable pace at the beginning of the project during the analysis and design stages. As the project went on and the concept of the software solution was clearer due to the two previous stages, the project plan was constantly readjusted to suit the project.

**Helpfulness of the project plan:**

In the end, seven different versions of the project plan were made. A new version was created whenever moderate-major changes were made (when approximately more than 1 week of planning was changed). The project plan consisted of a Gantt chart that included all the tasks to be undertaken, the length of time dedicated to it, and any resources needed for it. The project plan was somewhat helpful just to get a rough idea of how I was going with the project, whether I was lagging, on plan, or if I was going quicker than expected. However, it wasn’t too worrying if I wasn’t exactly following the project plan as unpredictable events and problems such as tests, assignments and burnouts (when I didn’t feel like working on the software solution) often made it difficult to fully follow the project plan.

The program used to implement the project, ‘GanttProject’, did not allow for the tasks to be worked on during the weekends (only the weekdays were counted) so it was not fully accurate as I often worked on the solution during the weekends compared to the weekdays as I had planned. I also found that I sometimes worked on tasks for a bit before or after the times that I had allocated for it, but these times were considered to be insignificant, so these weren’t adjusted in the Gantt chart. I also found that I spilt tasks into different parts sometimes by taking breaks off the task (for example, two 1-week breaks were taken during the implementation of the timer), but the program did not allow for these breaks during tasks to be undertaken. These limitations made the project plan slightly inaccurate.

The project plan somewhat helped with the project as it was more of a plan that I used to figure out what to do next, it wasn’t solidified, fully accurate and I didn’t follow it completely. For the most part, I worked on whatever I felt like I needed to work on whenever I felt like it, without needing to follow the project plan completely. Although this led to times where I forgot to update the project plan or led to times where I was really lagging behind according to my project plan, I always made it up and got back on track.

**Factors that caused changes:**

* Reliance of availability of clients/users to gather data from

This factor only affected one task, resulting in an increased analysis time. This factor was due to some online polls and interviews not being fully completed during the analysis stage as the respondents were too busy/took a while to respond, either due to differing time zones or due to their own personal schedules. There was a minimal impact to the project plan as only this task was affected because it didn’t take up too much time/effort to complete. Enough time was left for the upcoming tasks to be completed.

* Scope creep - Adjustment of the project (and its tasks) due to the analysis and design of the solution taken place to improve the software solution

This factor affected the project plan to a considerable extent as the analysis and design stages of the project had shaped the initial ideas of the software solution into something more suitable for the needs of the target audience and more suitable for the scope of the project (especially as the time constraints were made more clearer as the project went on). After creating the SRS and looking at the scope and constraints placed onto the solution, and its proposed features, the proposed solution made at the start of the project was found to not align with what was stated in the SRS. To ensure that the project plan was accurate, several tasks were dropped (due date reminder, break timers) as they were not needed or were not as important as the other features that were going to be implemented in the solution. Some tasks were also added (setting pages, help page) as the needs of the users were made clearer. This factor impacted the project plan moderately-majorly as some tasks that were to be conducted during the development stages were removed/added. However, these changes were made slowly made over time as the analysis and design of the solution was taking place, enough time was allocated for the completion of these tasks and they were done in time, according to the adjusted project plan.

* Changed milestone times

At the beginning of the project, only the milestone dates for the analysis and design parts of the project were given – the milestone dates for the development and evaluation parts of the project and the final end date of the project were not given. So midway during the project when these milestone dates were given, the project plan had to be adjusted accordingly to match up with the new due dates of the milestones often resulting in the times allocated for that task to be shortened drastically. This factor impacted the project plan moderately-majorly as it only impacted on the second half of the project, but it did shorten the times allocated for the development and evaluation of the project, meaning that more of the tasks had to be done alongside each other and more quicker than originally planned. Enough time was allocated for the completion of these tasks and they were done in time, according to the adjusted project plan.

* Scope creep – new features implemented to meet requirements

During the first part of the project, the information booklet containing what was needed to be done only contained information about the analysis and design parts of the project – no information was given for the development and evaluation parts of the project. So when the information booklet for second part of the SAT was given midway through the project, new tasks had to be implemented to try meet all of the SAT criteria. This meant that new features (using associative arrays, XML files, and the new implementation of a complex sorting algorithm (the subject/task sorting)) had to be implemented. This was a moderate impact to the project plan as the time allocated to other tasks had to be reduced to allow for these new features to be implemented but the new features were quite simple to implement so the project plan wasn’t impacted majorly. Enough time was allocated for the completion of these tasks and they were done in time, according to the adjusted project plan.

* Tests, exams, assignments and work from other subjects

During the development of the project plan, mid year exams were not taken into account so an approximately 2-week break had to be implemented into the project plan so that I could focus on the exams. This had a moderate impact onto the project plan as this resulted in a short period of time where no progress was being done on the project, decreasing the time allocated for the development and evaluation of the project. Enough time was allocated for these tasks though, and time was made up later, after the examinations were over.

Other tests, assignments and work from other subjects also impacted the project plan, though the time missed due to the tests, assignments and work were made up later, either during the weekends, after the test or due date of the assignment/work. This had minimal impact to the project plan (only several days), and wasn’t recorded onto the Gantt chart.

* Incapability to implement features

Some features of the solution such as the feature allowing users to add new subjects/tasks on the settings page were dropped because I couldn’t figure out how to implement it. This had a minimal effect on the project plan because the dropping of this task allowed for the time allocated to it to be moved to a different task instead. The feature itself also wasn’t necessary to the main functionality of the solution, as the same feature was also implemented on the main page of the solution, implementing it on the settings page would’ve just made the solution more efficient.

* Scope creep – new features implemented to prevent errors/improve the software solution

Whilst designing the solution, I had forgotten to take into account if users have more than 6 subjects/tasks so a new feature had to be implemented into the solution to allow for this possibility. This was done through the implementation of a scrollbar, which had minimal impact to the project plan.

During the informal testing, some errors were found so new features such as making sure that adding duplicate subjects/tasks were prevented and that all records associated with a user’s subject/task were deleted when the user deletes a subject/task made sure that the solution worked well, without any errors.

These new features had a minimal impact to the project plan as these features were implemented during the 2-week break that was allocated for the exam period, meaning that no other tasks were affected.

After the formal testing and after the usability tests, some new features were implemented to improve the software solution. While these new features were not specifically identified in the Gantt chart, these new features such as adding more validation to all inputs, a pie chart to the report page, a record search feature and a settings button on the timer page, were implemented into the solution to make it meet more of the user’s needs and to improve the effectiveness and efficiency of the solution. These features were implemented during the time I had allocated for the adjustment of the solution after testing so it didn’t have much of an impact on the project plan.

* Order of tasks undertaken in the initial plan didn’t make sense

Since the project plan was made before the tasks had to be conducted, I wasn’t too sure about the type of tasks to be completed or what the situation would be like during the project. As time went on and the ideas of the project were made clearer, some tasks were found to be planned in an order that didn’t make sense. For example, the timer settings were originally planned to be implemented later, after the timers had been implemented, but was moved to be completed nearly alongside the implementation of the timer pages so that different lengths and types of timer could be informally tested during the development of the timer. This change had a minimal-moderate impact to the project plan as the tasks had to be rearranged, but was moved to be completed alongside other tasks, freeing up time that was allocated to other tasks.

* Unexpected personal events

Some unexpected personal events such as overworking/burning out (periods where I didn’t feel like working on the solution) and family events (weddings, dinners, celebrations) impacted the project plan by preventing me from working on the solution. This had a minimal impact as these periods of inactivity only lasted for a few days at most which was easily made up later during the weekends or on other days.

* Under estimation of the time required to complete a task

During the planning of the project, I was uncertain of the length of time that should be allocated to a task. I often allocated more than enough time to a task but certain tasks such the editing of the subject/task names in the settings turned out to be more complex than expected and went over the time that was originally allocated for it. To compensate, this task was moved forward to a later time so that I could think about it later. This movement had a minimal impact to the project plan, while it did increase the workload a bit in the future, the short break off the task allowed me to figure out how to implement it and so it was implemented later.

**Conclusion:**

By constantly updating the SAT journal, recording the adjustments made to the project plan and making adjustments to the Gantt chart when necessary, the project plan was kept up to date and was as accurate as possible, making it as useful as it could be. During the development of the solution, the Gantt chart was opened up and monitored before I started working so that I could see whether I was on track or not and the sort of tasks I would need to work on today and what tasks I would work on next. Although the Gantt chart was not followed completely as there was some leeway, constantly updating the project plan and making it as accurate as possible meant that I could get a rough glimpse into the future of the project and get a rough estimate of the length of time I should be spending on a task, which assisted in meeting the milestone deadlines and eventually completing the solution.