Software Engineering Project Management

Personal Food Log App

Post-Performance Analysis

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Purpose

The main purpose of this Post-performance evaluation report is to analyze the completed and failed tasks throughout the project. Moreover, the techniques to overcome the failures.

Scope of PPA

This tool will provide a framework for completing a Post-Project Evaluation.
There are six key areas that need to be assessed.

1) Overall Project Assessment
2) Quality of Deliverables
3) Key Accomplishments using best practices
4) Lessons Learned
5) Opportunities for Improvement
6) Future Considerations

Key Accomplishments of Project

- Capturing food image
- Food image recognition by comparing it with database
- Calorie estimation algorithm's accuracy is predicted by creating several test cases.

Success Criteria

Acceptance Testing: We have done proper testing so that the customer should accept the final project. Every functionality is tested to meet the acceptance.

Project Information

Project Name: Personal Food logging App
The project was about creating a cross platform application to recognize images, estimating calories consumption and weight.

Expected End Date: 21st March 2021
Actual End Date: 21st January 2021
Actual Budget: 1,516,129(CAD)
Anticipated Budget: 1,486,129(CAD)

Project Metrics:

1. **Cost Variance**
   Our project meets the required deadline. The project was completed two months prior to the anticipated date. Due to personal reasons, programmer did the overtime and completed project before the deadline.

2. **Schedule Variance**
   Earlier we have assumed that the company will provide us the license for the software but during the project we had to buy the license for the software which increased the budget of the project. Our Schedule is ahead by 2 months.

Positives of the project

1. Deep learning methods and CNN were used to calculate the calories intake which gives almost the best results.
2. Proper coding standards were used for writing code
3. Modular approach is adopted. In these different functionalities have different modules

Negatives of the project

1. It cannot detect the ingredients like salt, pepper and oil etc.
2. It does not save the user history.

Lessons Learned

1. **Risks**

   Following are the estimated risks along with their mitigation strategy which we had discovered while implementing the project plan.

Risk	**Consequence**	**Probability of Occurrence**	**Impact**	**Mitigation Methods**
Bugs	Code not working properly	1	5	To understand the code first before writing it. Moreover, to check it after completion of every phase.
Miscommunicated Objectives	Requirements not met	1	5	Communication amongst team members during meetings. Also, by organizing meet ups at regular intervals.

System Crash	Rework	2	4	Taking backup of the work side by side. Using version control systems to save different versions of the code.
Training	Extra time to train employees	2	4	To involve under skilled employees from the start so that they would learn from the experienced developers. Also, so that they would know the flow from the starting.
Employee Health	Extra time to complete that particular phase or else over time	3	4	Work will be divided amongst employees so that in worst situation other developer could continue the work.

2. Small Start, and then extend

The team has simple design approach which means we had worked module by module.

3. Effective face to face communication

Earlier, we were using skype business for meeting, but it was not that much effective for our project progress. Then we move on to face to face meeting which was located at the main conference hall of our office. These face to face meetings leads out project by a greater extent was proved as an effective way to discuss problems that were discovered in the project during its progress.

Project Challenges

1.Group Communication

Different Opinions: Each team member was having different opinions and different mindset to accomplish a task. So, while deciding a strategy, every member was present in the meeting and one of the best methods was finalized by considering the pros and cons of all the options pitched.

2.Technical Challenges

Coding Standard: Best Coding standard was set by conducting a meeting. Everyone has his/her own style of writing code. So, it was a little difficult to select and come-up with one standard.

Integration Challenge: Integrating various modules was a challenge. Some bug issues were found and then debugging was performed.

Insufficient team skills: New and unskilled programmers were given proper training about the software and how to work with AI.

3.Managerial Concerns

Project management tool was used to manage the project deadlines, timelines for completing particular task. We have used OpenProj for this using which we have created Gantt Charts, Work Breakdown Structures, Resource Allocation Charts etc.
It reduced the confusion amongst tasks assigned to different team members.

Best Approaches

We have used best techniques like CNN (Convolutional Neural Network), Deep learning, Image recognition and processing methods for Artificial Intelligence features.
Moreover, for designing also, proper framework: Bootstrap used for the responsivity.

Quality Management

Quality was assured by following proper coding standards as set during the meetings. Moreover, proper discussion was held for choosing the best method for applying Artificial Intelligence, for selecting frameworks for front-end design and much more.

Project Improvement

SDLC: Spiral methodology was chosen in which meetings were conducted after regular intervals, but instead agile methodology can be adopted as a better option in which meetings are held on daily basis to discuss the daily tasks and the progress of the project.

Future Considerations

A) This application is developed at small scale level (considering only Ottawa region) but it can develop at larger scale if it is successful considering all the food types of all regions.

B) By considering the user's history, it should make the diet plan for the user and should give tips to maintain the diet.

C) Process and storage scalability- When the project will be enhanced, storage will be increased because of large data sets.