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16/SCI01/048

400 LEVEL

COMPUTER SCIENCE

QUESTION 1

You have just been hired by a local swim team to develop a Web site. This Web site will be used to provide information to boys and girls between the ages of six and eighteen who are interested in joining the team. In addition, the Web site will provide information about practices and the swim meet schedule for the season. The team would also like to be able to post the meet results. The head coach of the swim team is the project sponsor. He would also like the Web site to include pictures of the three assistant coaches and of the different swimmers at swim meets and practice. The swim team is supported largely by an association of parents who help run the swim meets and work the concession stand. Several of the parents have asked that a volunteer schedule be part of the Web site so that the parent volunteers can see when they are scheduled to work at a particular meet. The head coach,

however, has told you that he believes this project can wait and should not be part of the Web site now. Two people will be helping you on the project. One is a graphic artist; the other is person who is very familiar with HTML, Java, Active Server Pages (ASP), and several Web development tools. Answer the questions below based upon the information provided.

a. Come up with a name for the project.

b. Identify briefly the project stakeholders, their roles, and their titles.

c. Provide a brief description of the project.

d. What is your choice of project management methodology that can be applied to this project and why?

e. Specify the project's scope in terms of the high level features or functionality that should be included in the Web site.

f. Identify the key requirements of this project.

g. Suggest some of the risks that may be associated with this project.

h. Suggest an organizational structure that may be employed in undertaking this project.

ANSWER

1. Dolphin Swim project.

|  |  |
| --- | --- |
| Project stakeholders | Roles |
| Team prospects | User |
| Team coach | Project sponsor |
| Assistant coaches |  |
| Content provider | User |
| Parental association |  |
| Parents  | User  |
| Swimmers | User |
| Andokie | Project manager |
| Project team | Web developer graphic artist  |

1. A brief description of the project Dolphin Swim project is to create a website that is prepossessing, informative, engaging and captivating for the coaches, swimmers, parents and the local community. The website will function as a platform for providing information to children between the ages of six and eight who have an interest in joining the swim team and also their parents. This website will also provide information regarding the scheduled swim practices and meets. It will also post results and photos from the meets.
2. The waterfall system development methodology and my reason is because after each phase, there will be need for approval.
3. The project's scope in terms of the high level features or functionality that should be included in the Web site:
4. To design, develop and implement an interactive website to enable users to get timely information, add content and share with other members of the swim team and the community.
5. To develop a website that is accessible to the general public and allows visitors to sign up and request additional information about the team.
6. To develop a database of users to store profile information and login credentials for privileged site users.
7. To develop a database to store, retrieve and display scheduling information for practices, scheduling information for swim meets and the results of swim meets.
8. To develop a content file management system to effectively store, retrieve and display picture images.

QUESTION 2

What application software package do you use the most for programming?

• Code::Blocks

How often do you use this particular software package for programming?

• Once a week

Which features or functions do you use the most in your choice in (a) and the least?

• Most: main()

• Least: prime()

How would you rate the overall quality of the software package on a scale from one to five? Where one indicates very low quality and five indicates very high quality?

• Four

Why did you give the software package this score?

• The GNU GCC compiler is really fast and scalable. This debugger is a great tool for beginning with programming. It is also light and rather flexible, easy to travel with some excellent characteristics. It is also an open-source and free. Therefore, anyone can download it directly from internet. A great factor is also that this IDE is executable on Linux and Windows. It is updated almost every week, which is nice, because of that small mistakes get fixed fast.

In your opinion, what are the three most important attributes of a high quality software package that can be used for programming?

• Ease of use

• Efficiency

• Integrity

QUESTION 3

You have reached the stage in a project where you have created a plan that shows all the work that needs to be done. You must assign resources to the tasks.

(a) Describe FIVE factors that you would consider when allocating staff to a task.

1. Priority

Consider the work’s priority. Priority needs to drive everything. If you’ve been rigorous in your prioritization process, start at the top of the list and begin allocating work from there. That list should be based on the team’s and the organization’s goals. This has to be the first consideration in terms of how you distribute work. If a project is a top priority and somebody is available to do that work, they should be tasked with that work.

2. Skill Sets

Evaluate the skill set of the people who you’re thinking about distributing the work to. If they have the right skill set, you’re going to get a high quality result. The end product will be something that meets your customer’s needs. This also reduces the likelihood of people failing because you’re not giving them work that they don’t have the skill set to perform. You’re giving them something they can be successful with.

3. Availability

The next consideration for allocating work is a person’s availability. All things being equal in terms of priority and skill set, who is free to do the work? Who has the bandwidth? You should not be shifting resources from one project to another when you have available resources to pick up that new project.

If you start shifting resources around between projects when you have available resources elsewhere, you’re going to lose momentum on that first project and that project might fail. Additionally, the people who are on the project are going to be very frustrated. They had the resources they needed and all of a sudden they don’t. It’s going to seem like it was at a whim to just move somebody around. The person who will be most frustrated is the person who has the resource taken off the project they’re succeeding on and put onto something new.

4. Development

Next, you have to think about the development opportunity this project might present for that person. You should be constantly upgrading your team’s skill set. A way to do that is to give them new work where they’re going to learn new skills. Put them in situations where they’re going to be a little bit uncomfortable. Give them projects where they’re going to have to step up and learn, be taught, and be open to feedback and coaching. That’s how you’re going to take your team to the next level of performance.

5. Interest

The last consideration in terms of which person gets the work when it needs to be allocated is does somebody have an interest in performing that particular task? If someone is really interested and passionate about a project, you should let them take it on. They’re going to be motivated, excited to do it, and hopefully their performance will follow. One caveat here – make sure people don’t only gravitate to the work they enjoy doing and they stay away from things that they’re not comfortable with. If you let that happen, they’re going to end up getting pigeonholed and they’ll be very narrow in their focus.

(b) You know that you have all the required skills in the project team but not enough people with these skills to meet the project deadline. What are some of the possible actions you would take?

• Evaluate what is required

• Prioritize

• Get the right resources

• Create allowance for problems

• Plan in detail

• Limit damage of missed deadline

(c) It has been decide that you need to hire a new member of staff for the project. List the steps that you need to go through from identifying the need for a new resource right through to the end of the recruitment process.

1. Identifying the Hiring Needs

2. Preparing the Job Description

3. Talent Search

4. Screening and Shortlisting

5. Interviewing

6. Evaluation and Offer of Employment

7. Introduction and Induction of the New Employee

QUESTION 4

“The increased popularity of ‘lightweight’ project methods, for example AGILE, has led to some people questioning the need for well-established structured methods. There is no method that is always best, each is more appropriate in certain circumstances”

Do you agree with the above statement? Give reasons to support your answer.

Yes, each method is most appropriate in certain circumstances because 100% efficiency of a method or project is not right, 99% is alright with the 99% you leave room for upgrade and S

QUESTION 5

(a) Define the term “stakeholder” in relation to an IT development project.

• According to the Project Management Institute (PMI), the term project stakeholder refers to, "an individual, group, or organization, who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project.

 (b) You work for a large research organization with a number of branches throughout the country. At the moment, each of these branches uses a different main database system. It has been decided by Head office that the database system used by your branch should be expanded and then used by all the other branches to replace their existing database systems. They would need to transfer all their data to this expanded database on a main server, which would be located in your organization’s head office. A network would be set up linking all the branches to this main server.

(i) Briefly explain at least FOUR different types of stakeholders in this new project.

(ii) Identify their main concerns and their stake in the project.

 (c) A project sponsor has also been appointed. Name at least THREE people, or groups of people, who would then be directly responsible to the sponsor.

 ANSWERS

a. According to the Project Management Institute (PMI), the term project stakeholder refers to, "an individual, group, or organization, who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project.

b. TYPES OF STAKEHOLDER

• User as stakeholder: Users are the stakeholder-type of people who will use the products of your project or programme. They are the beneficiaries of the outputs. They could be customers who are a very important group of stakeholders or another internal department. For example, in the case of delivering a new software package for your Sales team, the stakeholders would be the Sales team.

• Governance as stakeholders: These are people or groups of people who have an interest in how things are managed on the project or programme. For example, management boards or steering groups would fall into this category, as they usually have the job to monitor the quality of the project as it develops and to provide advice and guidance throughout its course.

• Influencers as stakeholders: Influencers are the people who have the power to influence decisions and the ability to change the direction of a certain project or programme. In the group of influencers as stakeholders belong to trade unions and lobby groups as they are known for having the capability to impact a project’s track and protect and improve the outcome.

• Providers as stakeholders: suppliers and vendors fall into this category. More specifically, a supplier’s job is to supply a company. In addition, the group of providers can cover a larger number of profiles also including business partners, temporary contractors, catering staff, and anyone else who provides resources to the project or programme.

C. persons/ group of people directly responsible to the project sponosor includes;

• Project manager

• Program manager

• Stakeholders.

QUESTION 6

(a) Describe briefly a project management infrastructure that would be needed to support a software development consulting team working at a client site.

(b) Use the concept of learning cycles to briefly explain how project teams should work in a massive IT project to aviod conflicts.

(c) What relationships exist between Project Life Cycle (PLC) and Software Development Life Cycle (SDLC)?

ANSWER

b)  In my opinion conflicts are inevitable and everywhere, though we may not be able to prevent them from happening, we can control and minimize them. One of the primary methods of reducing conflicts is to perform careful project planning. Once the project plan, contributed by major key stakeholders, is established, it's only the implementation that a project manager will carry out based on the project plan so that every team member will commit themselves according to the plan, in this way, minimum deviations can be avoided. In most of the projects that have been executed, the planning of the project was not done with much attention and sufficient time, so much so that when the project moves into the implementation stage, major issues begin to surface or scope creep was great demanding severe changes to the contract. And it is during these tense moments that many conflicts ranging from schedules delays, scope changes, resource competitions, and technical issues start to overwhelm the project manager and even the project team members.

c) The project life cycle (PLC) focuses on the phases, processes, tools, knowledge and skills of managing a project, while the system development life cycle (SDLC) focuses on creating and implementing the project’s product – the information system. How a project team chooses to implement the SDLC will directly affect how the project is planned in terms of phases, tasks, estimates and resources assigned. The SDLC is really part of the PLC because many of the activities for developing the information system occur during the execution phase. The last two stages of the PLC, closing and evaluating the project, occur after the implementation of the information system. The integration of project management and system development activities is one important component that distinguishes IT projects from other types of projects.

