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CSC 408

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.

1. Come up with a name for the project.
2. Swim with a Team.

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

i. Head Coach – Project sponsor – Initiates project proposal, assists project manager and is the ultimate decision maker of the project.

ii. Parent Association – Resource managers – They manage project resources. They are responsible for assigning the right people to the right projects at the right time. They manage employees currently in the workplace and determine hiring needs based on each project’s requirements.

iii. Parents – Customers – They pay for the users to enjoy the service of the product.

iv. Boys and Girls – Users – These are the participant of the product services.

v. Assistant Coaches - Resource managers – Manage human resources.

vi. Mubarak - Project manager – Directs the project team.

vii. Graphics artist and Web Designers – Project team – Participate in the execution ad completion of the project.

c. Provide a brief description of the project.

The project is a website for people interested in joining a local swim team. The target users are kids between ages 6 & 18. The team is split into sub-teams which hold team meets and are overseen by one of the 3 assistant coaches per meet. The website is to include the picture of these 3 assistant coaches and the information on the meets. An Association of Parents support the assistant coaches and there will be a schedule to show parent volunteer for the Association.

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

Lean- Lean methodology promotes maximizing customer value, while minimizing waste. It aims to create more value for the customer by using fewer resources. For example, parents that are customers can also be volunteer staff or workers of the Association. Stemmed from the Japanese manufacturing industry, its values suppose that ‘as waste is eliminated, quality improves while the production time and cost are reduced.’ E.g. when publishing a magazine, if an editor spends too much time editing an article, it means that the design team will have less time to create the spread before the publishing deadline comes. Therefore, you would reduce the editing time and ensure every department’s timeframe spent on the article is the same.

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

e. Project Scope:

i. A database to store information of boys and girls interested in joining the swim team. Details such as ‘Name, Height, Weight, ID, and Age’ will be included in the database.

ii. The website will use forms to allow for input of information of the interested individuals into the database.

iii. A database to store information on the parents who are members of the association, and forms which they use to sign up to the association.

iv. An automated scheduling system for parents in the association to message, alert or pig the scheduled parent(s) at the time or day for which they are scheduled to work.

f. Identify the key requirements of this project.

Requirements:

i. Experts in website and graphics design.

ii. Cost to run scheduled meets.

iii. Expected number of boys and girls per meet.

iv. Expected number

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

g. Risks:

i. Budget risk: Overrun of cost.

ii. Resource risk: Inability to secure sufficient resources such as skilled workers.

iii. Sponsor support: Related to responsibilities of the project sponsor.

iv. Schedule risk: Relating to schedules and scheduling.

v. Security risk: Physical or information insecurity.

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

of association parent volunteers per meet.

h. Flat structure.

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
* Software development projects use different types of [software development life cycle (SDLC)](https://dzone.com/articles/ssdlc-101-what-is-the-secure-software-development) methodologies, depending on their nature and requirements, which basically define the way that the software development work is organized. The two main approaches are the traditional, waterfall method and the agile software development method. When choosing the methodology most suitable for your software development project, some of the things you should consider are:

The speed of completion,

The size of the system,

The level of collaboration and interaction that is possible among the software development team members.

QUESTION 5

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

* According to the [Project Management Institute](https://en.wikipedia.org/wiki/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.

1. Briefly explain at least FOUR different types of stakeholders in this new project.
2. i. Project sponsor(s): Individual that finances the expenses of a project.
3. ii. Project team: A team of individuals with specific skills to execute a project.
4. iii. Customers: Patronizes of the project end-product or service.
5. iv. Users: Use of enjoy the services of the project end-product.

(ii) Identify their main concerns and their stake in the project. c. Concerns of the stakeholders:

i. Project sponsor(s): Concerned with finances and success of the project. Stake: Financial returns

ii. Project team: Concerned with the execution and success of the project as well as marketability of the project end-product or services.

iii. Customers: Main concern is the success and usability of the product.

Stake: Product/service quality and value

iv. Users: Concern is the usability, ease and compatibility of the product.

      (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.

1. A customer
2. Project Team
3. Project manager

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.

1) Providing expertise on how to develop overall structure

2) Providing guidelines in areas of organizational development that are required for a successful implementation

3) Ensuring that there is effective connection throughout the organization so that the implementation grows effectively

4) Supporting the structuring and development of asset as necessary, leveraging a massive depth of experience in doing so with a range of organizations.

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

1.) Initiation Phase:

During the first of these phases, the initiation phase, the project objective or need is identified; this can be a business problem or opportunity. An appropriate response to the need is documented in a business case with recommended solution options. A feasibility study is conducted to investigate whether each option addresses the project objective and a final recommended solution is determined. Issues of feasibility (“can we do the project?”) and justification (“should we do the project?”) are addressed.

2.) Planning Phase:

The next phase, the planning phase, is where the project solution is further developed in as much detail as possible and the steps necessary to meet the project’s objective are planned. In this step, the team identifies all of the work to be done. The project’s tasks and resource requirements are identified, along with the strategy for producing them. This is also referred to as “scope management.” A project plan is created outlining the activities, tasks, dependencies, and timeframes. The project manager coordinates the preparation of a project budget by providing cost estimates for the labor, equipment, and materials costs. The budget is used to monitor and control cost expenditures during project implementation

3.) Implementation (Execution) Phase:

During the third phase, the implementation phase, the project plan is put into motion and the work of the project is performed. It is important to maintain control and communicate as needed during implementation. Progress is continuously monitored and appropriate adjustments are made and recorded as variances from the original plan. In any project, a project manager spends most of the time in this step. During project implementation, people are carrying out the tasks, and progress information is being reported through regular team meetings. The project manager uses this information to maintain control over the direction of the project by comparing the progress reports with the project plan to measure the performance of the project activities and take corrective action as needed. The first course of action should always be to bring the project back on course (i.e., to return it to the original plan). If that cannot happen, the team should record variations from the original plan and record and publish modifications to the plan. Throughout this step, project sponsors and other key stakeholders should be kept informed of the project’s status according to the agreed-on frequency and format of communication. The plan should be updated and published on a regular basis.

4.) Closing Phase

During the final closure, or completion phase, the emphasis is on releasing the final deliverables to the customer, handing over project documentation to the business, terminating supplier contracts, releasing project resources, and communicating the closure of the project to all stakeholders. The last remaining step is to conduct lessons-learned studies to examine what went well and what didn’t. Through this type of analysis, the wisdom of experience is transferred back to the project organization, which will help future project teams.

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

The systems development life cycle (SDLC) becomes part of the project life cycle (PLC). The PLC focuses on the project management phases, processes, tools and techniques for effectively managing the project while The SDLC focuses on the software engineering phases, processes, tools and techniques for building and/or implementing the IT solution.