|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Key Concepts** | **Explore concepts' significance and relevance** | **Establish relevance, make sense and meaning -Find real-life contexts** | **Establish relevance, make sense and meaning -Find interdisciplinary connections** | **Engage in critical thinking** | **Technology, tools and techniques** | **Plan project management** | **Project specification and sketch** |
| **What is an application development life cycle?**  The application development life-cycle also known as Systems development life cycle (SDLC), describes a process for planning, creating, testing, and deploying an information system in systems engineering, information systems and software engineering. | **Why do the SDLC and its phases matter?**  Success of the software is ensured by the utilization of all four steps of the SDLC as long application is used.  User's needs are determined in the research phase.  Design phase begins after compilation of all needed elements.  Then comes the implementation phase in which the designed software is testes and modified when needed and then finally released.  After this the software is made capable for handling errors and other problems or upgrades throughout the application's lifespan. This final stage is known as the maintenance phase. | **Which work domains employ these concepts?** **Which professional categories engage in these phases?**  This concepts are mostly used by professionals involved in software engineering or systems engineering or by or student developers carrying any development related project in team. | **What are the interdisciplinary connections? In what ways sub-subject extend beyond its phases?**  Interdisciplinary research carried out using these concepts include:-  **1.** We will take care of customer evaluation of the documents uploaded by keeping upvote system. Where the customer can upvote a document if it is found relevant. **2.** We will offer a Library personalization option by which we can trace the user’s preferences and thus avail the option of recommending documents.  **3.** Apart from this we will be taking customer suggestions. Any possible feature that could be added will be first formulated into a prototype and after testing for its relevance it will be added to the actual project. | **Compare and contrast various life cycle methodologies. In the real world context and situation at hand, justify choice of SDLC methodology.**  Instead of following other plan-driven methodologies, we have adopted the more people-driven Agile development model. We found this more efficient than the other rigid and heavy-weighted counterparts. More over our choice was also made considering the criticality of time.  The product comes in small fully functional increments with added features and functionalities in every next increment. Testing is carried out before release of each increment.  This was the methodology be-fitting our project. Others such as Waterfall model would not be suitable because there could be a change in the requirements and estimation of time was needed. Spiral modelling needs a lot more effort than is needed and thus would be complex. | **Identify, develop and procure technologies and tools for SDLC phases. Detailed system study- Interviews, on-site observation and questionnaire.**  **System design**- Data flow diagram (DFD), flowchart, Structured English, Decision table, activity diagram, structured chart, control flow diagram and Decision tree. **Coding**-Programming tools like compilers, interpreters, eclipse, vscode, lamp stack, A and language like JSP,PHP, python, css, bootstrap,JQuery. **Project planning**-  Program evaluation Review Technique(PERT) Gantt Chart, Task Board, work break down structure etc. | **Identify intermediate and final project deliverables and give their time lines and progress monitoring steps.**  The time lines are mentioned in the respective tables.  Research on the execution of algorithms and tesseract started from early September.  Complete the Design documents and start coding by mid-October.  Project delivered by mid-November.  Project testing till end of Novemeber. | **Give project specifications in the prescribed format.**  The project- Smart Search Education is a software that will work as an extension to the moodle that will allow the users to upload study and reference material in any file format and also search for relevant documents using keywords. It offers a personalized library system for its users and takes its feedback in form of suggestions and upvotes. The user first needs to login and then they can search for or upload any documents. If they find a relevant document, they can either view or download the same. If the user finds a certain set of documents useful for frequent use, he/she may add those to his/her library, based on the choice and selection of the user, documents will be recommended to him/her. |
| **What factors go to define it?**  The factors that define an SDLC model are:- **1.** The features of SDLC model **2.** The needs of Stakeholders **3.** The criteria? | **From what they learn in 2015, what should SE Course students remember about SDLC and its phases by 2020? By 2050? For a lifetime?**  SDLC being a cycle as its name suggests, supports the idea of continual development. The development cycle keeps on running until the final product is out.  It suggests that the software is assessed on the basis of its customer’s satisfaction.  Therefore the application’s success which is dependent on the customer’s satisfaction will only be fulfilled after completion of all the phases of SDLC. | **What customers they serve and for what benefits?**  The customer would everyone who uses the education system namely the students, faculty and administration. |  |  |  |  |  |
| **What are the different approaches to the life cycle methodology?**  Other Development methods complementing systems development life cycle are:- **1.** Software prototyping. **2.** Scrum. **3.**Adaptive Software Development(ASD). **4.** Extreme programming (XP). **5.** Dynamic System Development Method(DSDM)  **6.** Open-source development. **7.** Object-oriented programming. | **In what way SDLC phases are important and enduring for your professional growth?**  It allows for management control which if done separately would need a lot of extra effort. It also creates system documentation to a considerable level. Above everything, it ensures that the system requirements must be traced back to the stated business requirement. The testing and maintenance along with multiple intermediate stages ensures that the customer gets exactly what it needs. | **What value they create and performance they improve?**  Software life cycle model helps monitor the progress of project. It does this by defining the phases and also the points of entry and of exit of the phases. It adds the restriction over enter and exit such that their respective criteria must be satisfied. This distinction that leads to organization wouldn’t be possible without SDLC. |  |  |  |  |  |
| **What are the important and sustaining concepts of SDLC? (SDLC phases delineate the concepts. What are they?)**  There are following six phases in every software development life cycle model:- **1.** Requirements phase: gathering and analysis. **2.** Design phase. **3.** Implementation or coding phase. **4.** Testing phase. **6.** Maintenance phase.  Concept: all must be followed in order to ensure software’s success. | **What is their relevance in different work fields in industry, in healthcare, sport, games, music, dance, theatre, and media? In rural backdrops? In different parts of the world?** **Explore each phase to arrive at 4-5 problem solving challenges that excite you?**  It is possible to design an application for any of the above fields because SDLC does not impose any restriction of that sort. In case of any kinds of backdrop, the step by step development technique and fully defined and distinguished phases SDLC helps in pointing out any mistakes in the project or plan and also find a solution for it. Thus making SDLC suitable in any field and against any back drops. |  |  |  |  |  |  |