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| **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 systems development life cycle (SDLC), also referred to as the application development life-cycle, is a term used in systems engineering, information systems and software engineering to describe a process for planning, creating, testing, and deploying an information system. | **Why do the SDLC and its phases matter?**  SDLC ensures an application meets the needs of its users.  Success of the software depends upon utilizing all five steps of the SDLC for as long as the application is in use. The research phase is where, the user's needs are determined. After compiling a list of all needed elements, the design phase commences. After the software is designed and coded, it needs to be tested and reworked when necessary. The software is then ready to go live, which is known as the implementation phase. The last phase is maintenance, which requires staff ready and is able to handle errors, other problems and upgrades throughout the application's lifespan. | **Which work domains employ these concepts?** **Which professional categories engage in these phases?**  The people involved in software engineering or systems engineering related professions, or the students who are developing software or carrying any development related project in team tend to use these concepts. | **What are the interdisciplinary connections? In what ways sub-subject extend beyond its phases?**  We carry out many interdisciplinary research during the usage of these concepts. These include:- **1.** Customer evaluation. **2.** Offering of the OTS software product together with personnel as a bundle. **3.** An improvisation-intensive iterative task of weaving potential customers’ requirements into the prototype. **4.** A third sale milestone, representing the successful diffusion of the product. The significance of this interdisciplinary research is due to its unique position in the between of software engineering, marketing, and business administration. | **Compare and contrast various life cycle methodologies. In the real world context and situation at hand, justify choice of SDLC methodology.**  We are following Agile development instead of Plan-driven development. Agile development model is a type of Incremental model. Software is developed in incremental, rapid cycles. This results in small incremental releases with each release building on previous functionality. Each release is thoroughly tested to ensure software quality is maintained. It is used for time critical applications. Hence, it is most apt for our project.  Other models have some or the other thing that didn't go with our project, for example, in waterfall, it is impossible for any non-trivial project to finish a phase of a software product's lifecycle perfectly before moving to the next phases, then, spiral is for large- complex systems, and V-model is the least flexible model, which is not affordable. | **Identify, develop and procure technologies and tools for SDLC phases. Detailed system study- Interviews, on-site observation and questionnaire.**  **System design**- Flowchart, Data flow diagram (DFD), Data dictionary, Structured English, Decision table and Decision tree. **Coding**-Programming tools like compilers, interpreters and language like C, C++, and java etc. **Project planning**- Gantt Chart, Backlog, Task Board, Burn Down Chart, etc. | **Identify intermediate and final project deliverables and give their time lines and progress monitoring steps.**  The time lines for our project will be mentioned in the respective tables. | **Give project specifications in the prescribed format.**  The project- Project Recommend is a software that will be a basic music player software, which will allow the user to get recommendations of music similar to what he is playing, from the offline as well as online (if Internet available) pool of songs The user just needs to download and install the environment, and the user then needs to add some songs. When the user will listen to the music for the first time, he will be able to update the metadata of his song, which will be used for recommendations. |
| **What factors go to define it?**  The factors that define an SDLC model are:- **1.** What are the features of SDLC model? **2.** What are the needs of Stakeholders? **3.** What is 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 says that learn from your mistakes. In the end what is proposed as the last version, isn't really the last version. There is always scope of development! There are no right or wrong software! But someone may be better than others in a given situation. So, it is better to use a software development model than to use none! If there’s one takeaway for an SDLC, it’s that all phases of the SDLC need to occur for the success of the app and satisfaction of its users. | **What customers they serve and for what benefits?**  The customer can be anybody who acts as the user to the product created in the above work domains. The professional himself is also the customer. |  |  |  | PISE-PBL Sub Project 1 will be from September 17-20. |  |
| **What are the different approaches to the life cycle methodology?**  Complementary software development methods to systems development life cycle are:- **1.** Software prototyping. **2.** Joint applications development (JAD). **3.** Rapid application development (RAD). **4.** Extreme programming (XP). **5.** Open-source development. **6.** End-user development. **7.** Object-oriented programming. | **In what way SDLC phases are important and enduring for your professional growth?**  The wild success or quick sun setting of software and apps can often be traced back to its software development lifecycle or SDLC. The SDLC is not only a great way to ensure your app meets the needs of your business and customers, but it is also essential in supporting the app once it’s published. The SDLC is just that, a cycle. It doesn’t terminate until the application retires. The iterative process can go on for as long as more items are added in response to potential needs. It often requires on-going innovation from the developers. This way it helps! | **What value they create and performance they improve?**  A software life cycle model defines entry and exit criteria for every phase. A phase can start only if its phase-entry criteria have been satisfied. So without software life cycle model the entry and exit criteria for a phase cannot be recognized. Without software life cycle models it becomes difficult for software project managers to monitor the progress of the project. |  |  |  |  |  |
| **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.** Requirement gathering and analysis. **2.** Design. **3.** Implementation or coding. **4.** Testing. **5.** Deployment. **6.** Maintenance. | **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?**  An application software can be made for any of the above mentioned fields, also in any backdrop, be it rural or be it urban. Also the phases of SDLC helps us to take up any project belonging to any work field as a step-by-step process. It helps us to always point one or the other mistake in the project or plan, however bug-free it is! |  |  |  |  |  |  |