|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **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** |
| A software development methodology splits [software development](https://en.wikipedia.org/wiki/Software_development) work into distinct phases containing activities intended for better planning and organization. It is often a part of SDLC.  There are the following methodologies:-   * [Agile Unified Process](https://en.wikipedia.org/wiki/Agile_Unified_Process) (AUP) * [Dynamic systems development method](https://en.wikipedia.org/wiki/Dynamic_systems_development_method) (DSDM) * Waterfall model/traditional model * [Constructionist design methodology](https://en.wikipedia.org/wiki/Constructionist_design_methodology) (CDM) * [Crystal Clear](https://en.wikipedia.org/wiki/Crystal_Clear_(software_development)) * Spiral Model * [Extreme programming](https://en.wikipedia.org/wiki/Extreme_programming) (XP) * [Iterative and incremental development](https://en.wikipedia.org/wiki/Iterative_and_incremental_development) * Incremental model * [Kanban](https://en.wikipedia.org/wiki/Kanban_(development)) * [Lean software development](https://en.wikipedia.org/wiki/Lean_software_development) * Adaptive Software development(ASD) * [Open Unified Process](https://en.wikipedia.org/wiki/OpenUP) * [Pair programming](https://en.wikipedia.org/wiki/Pair_programming) * Prototyping model * [Rapid application development](https://en.wikipedia.org/wiki/Rapid_application_development) (RAD) * [Rational Unified Process](https://en.wikipedia.org/wiki/IBM_Rational_Unified_Process) (RUP) * [Scrum](https://en.wikipedia.org/wiki/Scrum_(development)) * [Structured systems analysis and design method](https://en.wikipedia.org/wiki/Structured_systems_analysis_and_design_method) (SSADM) * [Unified Process](https://en.wikipedia.org/wiki/Unified_Process) (UP) | Software Development Methodology is important because it determines the failure or success of the project  **1.** The project management is dependent on the roles of the various phases of SDLC.  **2.** The project development strategy is based on the methodology of SDLC.  **3.** The methodology also manages the requirements and the changes needed in the software. For example where prototyping model gives you the liberty to design to your imagination and incremental or agile models allow for a lot of change in requirements, waterfall halts at various steps in order to avoid danger and also does not support changes.  **4.** The successful execution of the software and it’s release depends on various forms of SDLC testing such as: unit, functional, performance, robustness, etc. | The relevance of methodologies in the real world, extends all over. However, the methodologies are project specific. We must choose a suitable methodology depending upon the project scenario. For example if we want to launch a completely new product in the market, we cannot use waterfall model for it as it will not be able to handle the risk or in case where production of an already established product is needed, waterfall would be better than others because easy to implement so it avoids the complexities.  We define these methodologies in the theories, but while we look at the real scenario, there are cases where we cannot use these for example in cases where spontaneous decisions are to be taken. | **1.** Recorded user experience.  **2.** project management.  **3.** Software Quality assurance (SQA).  **4.** documentation | These where the areas that needed critical thinking:  **1.** Open source software is more reliable than commercial software and thus open source was chosen  **2.** We were confused between whether to use Agile or incremental model but then we chose Agile given that its techniques are the futuristic and that it was more be-fitting than any other model for our project  **3.** OO programming is better than structured programming.  Extrapolate on this and add other techniques and why it was chosen also the platform we need | For the Requirements phase, various commercial tools are available for collecting and analysing data.  For the design phase, various prototyping tools and software development environments are available on the internet such as Java platform.  Other than this, various softwares are available that can be used for communication within group one such is slack.  Tools  Developing of use cases, sequential diagram, class diagram and state diagram was done using starUML and creately;  Tools are also available for the testing phase such as jsmeter, selenium and sourcemonitor.  development tools include:-  **1.** [Compiler](https://en.wikipedia.org/wiki/Compiler).  **2.** [Debugger](https://en.wikipedia.org/wiki/Debugger).  **3.** interpreter  **4.** [Modelling](https://en.wikipedia.org/wiki/UML_tools).  **5.** [IDE](https://en.wikipedia.org/wiki/Integrated_development_environment).  **6.** [Testing](https://en.wikipedia.org/wiki/Category:Software_testing_tools).  **7.** [Computer Aided Software Engineering](https://en.wikipedia.org/wiki/Computer_Aided_Software_Engineering) (CASE) tools.  **8.** [Database Management Systems](https://en.wikipedia.org/wiki/Database_Management_System) (DBMS).  **9.** [Fourth-generation programming languages](https://en.wikipedia.org/wiki/Fourth-generation_programming_language).  **10.** Code generators.  **11.** Object-oriented techniques.  **12.** GUI tools  **13.** static code analysis. | We planned on following the Agile methodology and we had an immediate deliverable in the form of a log in page.  PISE-PBL Sub Project 2 will be form September 21-24. | As mentioned above.  ---------do-------- |