**Theory-Practice Correspondence Document**

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| **Key Concepts** | **Relevance** | **Real World Contexts** | **Interdisciplinary Connections** | **Critique** | **Technology, Tools and Test Cases** | **Project Management** | **Project Sketch** |
| **Introduction to Software Development Life Cycle** | This Phase is important to determine the sequence of activities required to do to complete our project and details about each activity as well. | It is generally expected for any company to have a software development life cycle, without a proper sequence it is certain that the required output is not attained from the project. | This should be used for every project as all this helps in tracking project status and progress and each and every project goes through a cycle which needs to be checked time to time. | This helps the team to analyze the project and make a plan regarding the precedence of different activities.  If this step is not given attention, most probably the software will fail. | GitHub, Google Drive, mocha, sinonjs, chai, total.js, gmail,node.js  , jsmeter. | Planned to follow the life cycle and start from August 23rd 2016. | Started following the lifecycle from August 23rd 2016 and completed the project on November 26th 2016. |
| **Various Software Development Methodologies** | * **Waterfall Model:** * Not aware about all the requirements and they may change as well so not a suitable option * **Prototype Model:**No prototype was build , clear requirements and needs were taken and hence not prototype model * **Spiral Model:**The rate of interaction with customer was high but it was not after every step or part completion, it was for better understanding of project and updates (if any). * **Incremental Model:**This was most suitable as per our thinking o project and it was followed. After completion of one step, we moved on further and in this way we completed the project. * **RAD Mode**l: No sufficient human resource. | Incremental model is used to divide the whole project in smaller and significant parts .Each part is completed individually and then you can move on to next required step. It can be used in different projects that are made up of certain modules that can be combined to give the desired output like: food pertaining. | The software type,the customer involvement, number of members in team, the needs and requirements, it involves both development and maintenance, and time availability for the completion of project are the various reasons that made us choose Incremental Model for our software. | Few disadvantages of this methodology:   * Can be costly and time conserving as one more step is added· * Follows a defined set of processes, customization is not allowed· * Defines increments based on function and feature dependencies· * Requires much more of client involvement than other models· * Requires heavy documentation. | - | * The Project and team members were decided * The basic requirements were known but more clarity and detailing was required. * The requirements emerged and got sorted as the project progresses * The project model was decided in August at the time SRS document was made. | * The customer contacted and , * The project was finalized and * The specifications like customized design , easy interface etc. were specified and * As some aspects were undecided so the work was proceeded as the requirements were proposed by the customer. So Incremental model was decided to be the Software Development Methodology. |
| **Software Requirement Specification**  -Problem Analysis**:**  -Requirement Specification: | * Our project is to create anOnline shopping portal system with certain social media inclusion as well .It’s main aim is to provide our client with a complete platform to start a new business * Simple but unique UI,Portability,Custom design, reliability, innovation with social media tweaks, efficiency, security | * Problem Analysis is very much important in real world as to complete a task we need to have all the objectives and aim clear in mind .Completing task will be much easy if the objectives will be clear. * The Software Requirement specification generally done in every development based company and is very useful for knowing customer’s needs. | * Firstly we interacted with the customer and understood the problem and requirements, later the team analyzed and discussed the idea. * After the problem analysis, the requirements are decided by the agreement of the customer and tools,software’s are decided. | * This step is verification of all the decision’s taken regarding choice of different tools, technology or life cycle or Software model chosen; it helps if a mistake is done at a very early stage. * In this it is checked if all the requirements are fulfilled and if any more requirements are there and if any changes are required. | * Word, Google Doc etc.   Word,Google  Doc etc. | * The team analyzed and sorted all the requirements and completed the whole SRS on August 28th 2016. | * The customer was contacted, the team members were decided.. * The requirements the purpose , and the goal of project was properly understood * Hence SRS was documented. |
| **System Design**  **-**Abstraction  -Modularity  -Coupling  -Cohesion  -Top-Down Design | -Abstraction is important aspect of design as it hides the unwanted or irrelevant information from the userand it extracts important or only required information. Abstraction is properly attained in our project  -Module is a program and modularity is using functions or sub-programs which do certain task so that repetition and ambiguity is removed  -Coupling is helpful to measure the level of inter-dependability among modules. Some of the functions in our project are dependent on each other.Low coupling is attained  -Cohesion is helpful to measure the level of intra-dependability within elements of module.  -In our project it was easy to implement as compared to bottom-up design. | -It is necessary to hide irrelevant or unwanted details for better UI and also the user can focus on important things.  -It is necessary as it helps in lessening LOC, testing and debugging effectively.  -It is necessary as it tells at what level the modules interact with each other and helps removing complexity of the code.  -It is necessary as it decides how well modules fit together.  -It is necessary as we know our requirements beforehand. | -It allows controlling the complexity of design process by proceeding from abstract design model to concrete design model.  -It allows the easy maintenance and error detection without affecting the performance of the software.  -If we need only one field of record then there is no need to pass all the records.  -Thorough knowledge of the functionality of every component is required.  -Requirements should be clear to the developer then only one can proceed. | -Can use it without knowing how it is implemented.  -with the increase in number of modules, the effort and difficulty to integrate them is high.  -Lower coupling will lead to better program.  -Higher cohesion will lead to better program.  -It is usually more effective for smaller programs. | Argo UML,  Atom Editor.  -  -  -  - | -Brainstorming was done to decide what to show and what to hide.  -Project was divided into different modules.  -Figured out the dependency of modules.  -Figured out the dependency within modules.  -After observing the model design was decided. | -Discussion was done to reach to a conclusion done and steps were taken to process it.  -Discussion was done to reach to a conclusion done and steps were taken to process it.  -Discussion was done to reach to a conclusion done and steps were taken to process it..  -Discussion was done to reach to a conclusion done and steps were taken to process it.  -Discussion was done to reach to a conclusion done and steps were taken to process it. |
| **Coding**  **-**Top-Down Programming  ‘  -Structured Programming  -Information Hiding | -Modules at the top level perform general tasks and proceed to other modules to perform particular task.  -We chose this as it is helpful when we need some repetitive tasks in our program  -It is used to minimize the complexities among different modules of software. | -Program is broken into smaller modules so it is easy to trace a particular segment of code in software program.  -It helps in reducing statements, multiple exit and entry points from the program.  -It focuses on hiding non-essential details of function in a program so that they are inaccessible to other components of the software. | -It makes the functions and procedures globally visible.  -It makes the software code easy to modify when required.  -After using information hiding, modules are connected with a specific section of program and not the whole program. | -There is a risk of implementing data structures as modules are dependent on each other.  -It is restricted to top-down approach of coding.  -Modules created without using information hiding  Affect other modules. | AngularJS, Mocha, Sinonjs, Chai, Total.js, Gmail,Node.js  , jsmeter.  -  - | -We knew the requirements beforehand so we chose top-down programming.  -Decided the possibility of repetitive functions.  -Relevant data was decided according to different screens. | -Started coding after all the design documentation part was done.  . |
| **Testing**  -Level of Testing |  | The Testing is required in majorly every project as we need to identify if the software or the module is working properly or not. If it is efficient enough or not and giving out precise outputs or not. | Testing requires a process which needs to be followed | Its few disadvantages are that:   * it might be draining our resources. * it might take a lot of time to implement the test cases. |  |  |  |
| **Software Project Management**  -Cost Estimation  -Project Scheduling  -Staffing  -Software configuration management  -Risk management  -Quality assurance | -Cost estimation is an important aspect as any project cannot be made without it being financially feasible.  - It is necessary to come up with a feasible schedule for all the members.  -Hiring efficient and right people for the project is necessary for staffing. | -All professional companies chart out the financial feasibility of a project before proceeding with it, hence, this is a very important step.  -A schedule has to be made to complete the project efficiently with optimum use of resources. | -Understanding of current business scenario, economics and finances is a must. It helps in also estimating costs for other real life projects.  -It helps in designing schedule for other projects as well. | -HR members and project team members should be well versed in finances to use resources optimally. |  | -Since we are using all our own resources and open source we have not spent money on the project, so the only thing that needed management was time. | -Zero cost project. |