Upgrade Solutions (Pty) Ltd
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Simple solutions for complex needs

Business Models @ Upgrade Solutions

In the new economy, we realize that customers are increasingly demanding the flexibility that best serves their unique business requirements. We provide the option of selecting a combination of business models to suit various phases of a project cycle.

Fixed Time/ Fixed Price

Our fixed time, fixed price model offers customers a low-risk option and can be employed when the cope and specifications of the project are reasonably clear. This model guarantees on-time, on-budget delivery of projects. Deliverables, Costs and Timelines are clearly defined in the Fixed Time/Fixed Price model. In fixed time, fixed-price engagements,
Upgrade Solutions follows a phased approach that includes scoping, development, implementation and business support. Combining the fixed time, fixed price model with our solutions center, we can offer customers a tremendous advantage on the cost front.

Time and Materials

In this business model, Upgrade Solutions forms project teams with the required team members, project managers, equipment and infrastructure based on project requirements. This model offers the flexibility to balance team size and project workloads. Most of our onsite services (unless it is part of a fixed time, fixed price project) are delivered using this business model. Upgrade Solutions could bid for partial phases of a project on a fixed time, fixed price basis and the remaining parts on a time and material basis. In such engagements, the Client has complete flexibility in using our associates in tasks that match their area of expertise.
Upgrade Solutions provides knowledgeable, skilled, motivated, energetic and competent consultants who work seamlessly as part of client teams to provide quality solutions. Our consultants are handpicked after assessi0ng their technical, communication and interpersonal skills. We keep our consultants on the cutting edge of information technology by providing them with ongoing advanced training and skill-building workshops.

Methodology

Software Development Methodology

@ Upgrade Solutions we follow a process Software Development Life Cycle Methodology designed to minimize project risks and development time. We focus on business solutions that fulfill business goals, instead of merely providing technical solutions. All our applications are built on the basis of this philosophy.

The approach that we adopt is the spiral iterative methodology, where the project goes through one or more iterations of all project stages.

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We have defined processes for requirements capture, analysis, design, development, testing and deployment. We generate UML diagrams representing the Use Case Model, Analysis Model, Design Model, Implementation Model and Test Model.

Requirement Definition

In this stage, client requirements are gathered. This is done on the basis of information provided by the client in the form of documents, existing systems & process specs, on-site analysis interviews with end-users, market research and competitor analysis. This stage has the following steps:

1. Requirements Analysis with Business Application Goal and High Level Requirement gathering
2. Creation of Visual Scope Document and Feature List
3. Providing technical recommendations and High Level Requirement Specification

Seven important points to keep in mind for successful requirements capture

1. There are three levels of requirements

   A. Business Requirements - High level objectives of the project which are recorded in the Vision and Scope Document

   B. User Requirements - Task and facilities available to the end user recorded in the Use Cases.

   C. Functional Requirements - Detailed listing out of each behavior that the software must exhibit. This along with the quality attributes and other non-functional requirements is documented in the Software Requirements Specification (SRS).

2. Involve the end-user or customers as much as possible during the requirements capture stage. Identify various user groups and one representative individual from each group for inputs regarding their specific requirements. They could also review prototypes and the SRS to ensure completeness and effectiveness.

3. Ensure that the requirements are quantifiable and measurable. Areas that are unclear may require more detailed analysis or even the development of a prototype. Developing Test cases early also help reveal any gaps in the requirements capture. Verify the completeness of the requirements by formally inspecting the documents generated.

4. Prioritize Requirements by their relative importance. This will help weed out high cost-low value functionality. It will also help in making informed and critical decisions when faced with time/ resource and functionality tradeoffs. Identify and remove any functionality which will not be used or which do not help meet any of the business objectives.

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5. Ensure that the project scope is clearly defined in the Vision and Scope document. Expect some amount of requirements growth and buffer for it, since rarely is the project deadline changed, additional resources provided or any existing functionality deleted to compensate for it. Effectively using requirement gathering methods and base lining the requirements specifications also helps avoid scope creep. All parties involved must realize that future additions will add to the cost.

6. Establish and enforce a clear and realistic process for change management. Prioritize the proposed requirement changes against the requirements yet to be implemented. Ensure that each change and its impact are sufficiently analyzed to avoid unforeseen complexities and slipping project schedule and deadlines. Analyze associated costs and benefits and all the associated tasks and resource impacts. Also, be disciplined about following suitable version control policies to ensure that all the project participants are working on the latest requirements.

7. Finally, while it is important to have a complete set of requirements to start design and development, it is also important not to get bogged down at this stage. After a set of requirements has been fully identified, development can begin on this while unclear requirements continue to get analyzed and clearly defined. The iterative model or phased approach is better than the waterfall model in these cases.

Analysis

In this stage, a detailed analysis is carried out from the information in the vision & scope document and feature list. This stage has the following steps:

1. Analysis and creation of Software Requirement Specification
2. Creation of Use Case Specification & Diagram and generating the Use Case Model
3. Design business rules and flow diagrams
4. Establishment of Requirement Traceability Matrix
5. Validation of the Scope and estimates against the contract and revisions made if necessary

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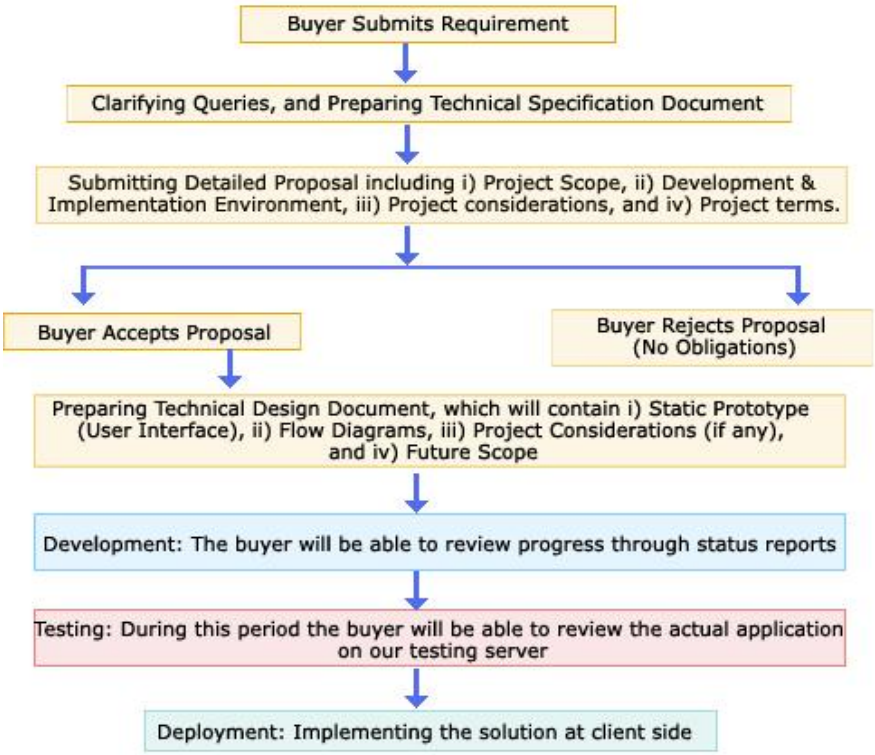

Design

In this stage, the application design is developed on the basis of the software requirement specification, use case specification, business rules & diagrams and the scope agreed upon in the Requirement Definition stage. This stage has the following steps:

1. Designing Architectural Diagrams
2. Creation of High Level Design and Low Level Design class diagrams.
3. Establishment of Entity Relationship Diagram, Data Flow Diagram and Deployment Diagram.
4. User Interface - The prototype is developed and validated against the requirements and presented to the client for approval
5. The use cases elaborated in the analysis model are represented using collaboration diagrams
6. Design model elaborations are made from the analysis model. Validation of the scope, estimates against the contract and revisions are made if necessary
7. The Implementation Model is generated from design
8. The Test Model is generated from use cases

Development

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In this stage, the actual code based on the design is created and tested against design requirements and test cases. This stage has the following steps:

1. The development of code base proceeds as per implementation and design models
2. The application source code is tested according to the test cases and test plan
3. Documentation of processes
4. Creation of Use Case Test results

Integration and Testing

In this stage, the developed application is tested through test cases, test plans and user acceptance criteria in the deployed environment.

1. Integration and quality testing is carried out resulting in test reports
2. Client acceptance tests carried out
3. Client feedback and debugging
4. Client acceptance

Deployment and Acceptance

In this stage, the developed application is deployed on the live server.

1. Integrated Application and Deployment plan
2. Implementation on client Premises or Hosting Server
3. Implementation Signoff by Client
4. Creation of Archived Software Articrafts
5. Transition of application to the maintenance team
1. The steps above are iterated through until the final deliverable is completed.

Quality initiatives at Upgrade Solutions

Quality is an ever-extending goal - the better you are, the better you need to be. The management of the quality process is infinite, and marked only by milestones, never by completion! Upgrade Solutions recognizes that, to fulfill our goal of self-evident quality, we need to constantly improve our deliverables to match the increasing expectations of our customers. With standardization being the key to all growth - professional, personal and financial, Upgrade Solutions reviews all its processes periodically and enhances them regularly.

We implement the Software Quality Assurance (SQA) that addresses the quality assurance needs at every phase of the development cycle. Our QA team has developed a focused quality control checklist. In addition, we also have a comprehensive Quality Testing Checklist which ensures that every solution delivered by Upgrade Solutions measures up to the highest possible international standards.

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Our aim is to provide quantifiable and consistent results through automated processes that have been tested over time

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