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Design Modeling Workshop Using UML

Up to a 1 week tailored session with facilitator/mentor to guide participants through activities using the project's assets: requirements (use cases), decisions, models, and CASE tools. The workshop is customized to focus on a single project's needs. The workshop is structured to provide brief mentor presentations of concepts and techniques to refresh student's memory of prior training followed by hands-on modeling using client project assets.

Brief workshops build upon classroom training, turning learned concepts into actual skills. Longer workshops will produce project modeling assets that can serve as the project's initial development iteration design model.

Workshop Inputs:

The following artifacts from the project under development are preferred inputs. Similar artifacts from legacy or related projects are also helpful.

- Use cases (preferred)
- Other requirements documentation
- Business or analysis domain class model, system sequence diagrams, and system operation contracts
- Any existing other analysis, architecture, and design models
- Data models
- User interface designs

Workshop Outputs:

The scope of outputs depend on length of workshop and activities chosen by the client.

- Component models at the enterprise or project-level with service-oriented interfaces
- Class models at the enterprise, project domain, and subsystem levels
- Component, class, service, and operation specifications
- Sequence diagrams demonstrating inter-class/component dynamics
- State models for key classes

Workshop participants:

Designers, Architects, System Analysts

Duration:

3 to 5 days

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Workshop Activities:

The client may choose which activities are desired for their project.

- Create class diagrams from requirements and analysis models
  This activity starts your project in the design process by analyzing requirements (use cases) and producing class diagrams. If a domain class diagram is provided as an input, this activity proceeds more quickly to the design class diagrams.
- Design system behavior using sequence diagramming
  Sequence diagramming is difficult to get started, but invaluable as a tool. This activity gets your project started by sequence diagramming the scenarios in your requirements (use cases). This results in identifying the operations on your project's classes.
- Design class behavior using statechart modeling
  Statechart modeling helps create smart objects, objects that behave according to the rules of your business. However, statechart modeling is difficult to get started. This activity gets your project started with statechart modeling for your key classes.
- Partition the models into reusable components
  Identify commonly accessed services throughout a project or across an enterprise. Group the services into components. Design the component interfaces for optimal reuse. Apply the principles of Service Oriented Architecture.
- Improve model quality by applying quality guidelines
  Use widely accepted guidelines such as increasing cohesion, reducing coupling, applying the Law of Demeter, maximizing knowledge encapsulation, etc., to improve modeling quality.
- Improve model quality through pattern usage
  Patterns are proven designs that can improve any application. This activity examines your class models to identify opportunities to apply patterns and, where appropriate, helps your team to incorporate the patterns into your design.
- Structure the design model in client's CASE tool
  CASE tool repositories contain use case models, analysis models, design models, and architecture models. This activity helps your team set up its CASE tool repositories to facilitate simultaneous use by multiple developers across multiple iterations.
- Conduct design reviews
  Artifact quality is dramatically improved through technical reviews. This activity leads your team through conducting an IEEE-style software inspection involving traceability, testability and quality inspectors.