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Analysis Modeling Workshop Using UML

This workshop is up to a one week session tailored to specific client project needs led by a facilitator/mentor that guide participants through activities of a project's assets: requirements (use cases), decisions, models, and CASE tools. The workshop is structured to provide brief mentor presentations of concepts and techniques to refresh students' memories 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 analysis model.

Workshop inputs:

- The following artifacts from the project under development are preferred inputs:
  - Use cases (preferred)
  - Other requirements documentation
  - Existing analysis and design models
  - User interface designs
- The following artifacts from legacy or related projects are also helpful:
  - System requirements documentation
  - Analysis and design models
  - Data models
  - User interface designs

Workshop Outputs:

- The scope of outputs depends on length of workshop and activities chosen by the client:
  - Domain class model detailed with business attributes and relationships
  - Class, attribute, and relationship specifications
  - System sequence diagrams revealing system operations
  - System operation contracts (specifications)
  - State models for key domain classes

Workshop participants:

System analysts, designers, architects, subject matter experts

Duration:

2 to 5 days

Workshop activities:

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

- Create class diagrams from requirements (use cases)
  This activity starts your project in the analysis process by analyzing requirements (use cases) to identify key business abstractions, data, relationships, constraints, and rules. Your staff is then led through the steps of modeling these business elements in well-formed UML class diagrams.
- Identify system operations using system sequence diagramming
  System operations are the behaviors that users and other systems request of your system. System sequence diagrams are a tool used to identify system operations. This activity gets your project started by sequence diagramming the scenarios in your requirements (use cases).
- Specify system operation contracts
  System operation contracts identify the preconditions and post conditions of system operations, thus revealing the inherent changes in state of business objects, attribute values, and associations. The activity of specifying system operation contracts results in dramatic improvement in the quality and completeness of your project domain class model. This activity teaches your staff how to create complete, well-formed system operation contracts and refactor the domain class model as a result.
- Specify class dynamics using state modeling
  State modeling using UML statechart diagrams helps create smart objects: objects that behave according to the rules of your business. However, state modeling is difficult for most people. This activity gets your staff started by developing statecharts for your key classes.
- Document model details through specifications
  There are always more model details than are apparent on the model diagrams. This activity completes the modeling by documenting those details in class, attribute, association, state, and transition specifications.
- Structure the models 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 MODEL 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