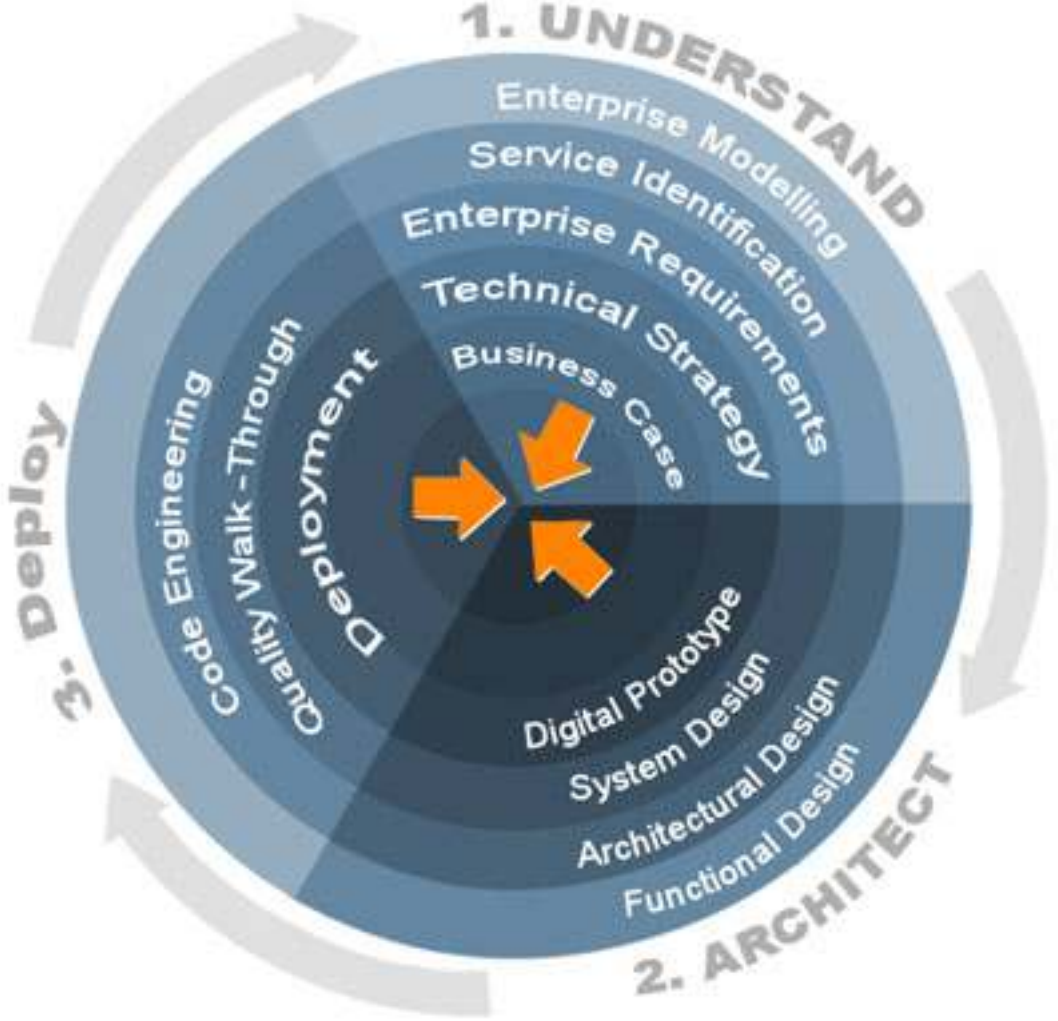


# UAD - Mantra

## Process in Place

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# Content



GMI
BRAINWORKS

# UAD - Goals

GMI has built a sound software engineering process with the help of our past 240 person years experiences to deliver robust, cost effective and reliable solutions to our clients. The objective of re-engineering a customized solution is to establishment and usage of sound engineering principles in the development process. UAD is a 360-degree approach towards engineering effective solutions. GMI believes in delivering the solution rather than delivering the technology. Hence the equal focus has been given to understanding the client requirement. Our vertical competency has enabled us to empower our client by providing Innovative business solutions. The whole software development has been categorized into 3 phases i.e., Understand, Architect and Deploy. In understand phase GMI Vertical experts and Practice heads will analyze the client's existing process and suggest an innovative solution to empower business model. During Architect phase GMI team will design the system and develop a digital prototype to freeze the design. In Deploy phase GMI developers will engineer the solution and deploy the solution after client acceptance. The process clearly identifies the roles and responsibilities of client, management and development team both onshore and offshore. Every participant in the solution development is responsible for his defined activity. At GMI we evolved a solution framework by integrating our Process, People and Product.

# Understand

In Understand phase GMI would study the customer existing business model, Analyze the existing business process to derive the customer requirements for Information Technology Investment. In this phase GMI domain experts will go through the existing business model and Map it with the market trends and potential. The flow of the Understand phase would be

- Enterprise Modeling
- Service Identification
- Enterprise Requirements
- Technical Strategy
- Business Case

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# Understand

## Enterprise Modeling

In Enterprise Modeling phase three-dimensional analysis of the customer's existing business will be done. The first dimension addresses the organization structure and the functions that are performed with in the business areas defined by the organizational structure. The second dimension decomposes business functions to isolate the processes to make that function happen. Finally the third dimension relates objectives, goals and CSFs to the organization and its functions. In addition, Enterprise modeling creates a business level data model that defines the data objects and their relationships to other elements of the enterprise model.

## Service Identification

Service Identification establishes a details framework for building an information-based enterprise. In this phase each business/service areas are analyzed by GMI vertical consultants to get a clear understanding of the elaborate and subtle ways in which the information aspects of enterprise inter-relate. The existing process and Information flow are studied and analyzed using process modeling and Information flow modeling.

# Understand

## Enterprise Requirements

In this phase the enterprise requirements are analyzed to propose a solution to the client. The foremost out come of this phase would be identifying the customer's need, evaluation of the system concept and feasibility. In this phase GMI consultant will gather information from the client to formalize the requirement. Once the system requirement is finalized GMI would carry the feasibility study to understand the economical feasibility of the proposed system. The high level estimation is done to carry the economic viability of the proposed system. Even various risks involved in the development/post development stage of the proposed system will be listed. The GMI will define the risk mitigation strategy to minimize the various risks involved.

## Technical Strategy

During Technical Strategy phase GMI-Tech experts evaluates the technical merits of the system concept. The various factors considered during technical strategy are performance, reliability, maintainability and productivity of the proposed Enterprise system. In this phase tech experts would suggest which technology to be used and what are the associated advantages to the client. The GMI would focus more on to develop innovate and cost effective solution to enhance the business of client.

# Understand

## Business Case

This is the last stage of Understand phase. In this phase GMI would deliver a complete business case to client to suggest him a very effective solution for enterprise requirements.  Business case is a complete report stating the customer's existing business model, scope of improvement, desired solution for the scope, feasibility of the proposed solution both economically and technically. GMI would clearly define all the deliverables, communication strategy and project management strategies in the business case.

# Architect

In Architect phase the focus would be more on developing a functional solution and designing the system architecture. GMI tech consultants would develop a reliable and effective system. The various stages involved in this phase are Functional prototype development, High-level architecture design, System design and System simulation. The deliverable at this phase end would be digital prototype to the client.

Functional Design

Architectural Design

System Design

Digital Prototype

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# Architect

## Functional Design

GMI would develop a functional prototype to clear all aspects of the system requirement. Functional prototype would be helpful to make necessary changes in the system requirements. GMI would finalize the functional requirements in this phase and will not entertain any functional changes once the client approves functional prototype.

## Architectural design

GMI will use GMI-Architectural framework to develop high-level architectural design. The system design will be done in five processing regions (user interface, Input, system function and control, output and maintenance. The high level design clearly establishes the information boundary between the system being implemented and the environment in which system is to operate.

## System Design

Once client approves the high level design the GMI will go for system design. GMI tech consultants will design a robust system using GMI-Architecture Framework. The Architecture Context Diagram (ACD) will be delivered to the client in this phase.

## Digital Prototype

Once the design part is over GMI will go for System Simulation. This digital prototype will help client to make necessary changes in the designed system. Once the digital prototype is approved by the client GMI will not entertain any changes in the system architecture.

# Deploy

In the Deploy phase the actual coding of the proposed system is done. In this phase the system is coded, Integrated tested and deployed on-sight and maintained to assure best service to our client.

Code Engineering

Quality Walkthrough

Development

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# Deploy

## Code Engineering

In this phase the coding will be done on module wise. Each module are coded differently and tested individually. GMI will stick to our coding standards that are defined during the Architect Design phase. Code integration will be done once the codes are tested to develop modules. Each module is tested again to build up the system. After code integration System Integration will be done to develop the complete system. Once the system is developed it will be tested to fix up all the functional and technical bugs. Test reports will be generated and communicated to concerned persons to fix up the bugs. After GMI quality team tests system, it will be given to client fort on-site test. Once client approved the system GMI will go for quality walk through and live test.

## Quality Walk Through

Once Acceptance test is done project will go for quality walk through. In this stage all the documents, User manuals, Bug reports or any other project related documents would be handed over to the client. After client approval, GMI will do the live test to monitor the live performance of the solution. Once both GMI and client satisfies with out come GMI will go for Deployment.

## Deployment

After final acceptance of the designed system GMI will deploy the solution at onsite and handover all codes and other project related documents to the client. As per the initial agreement GMI will continue the support if needed to the client.

# UAD - Goals

## Understand

The goals of the Understand phase include:

- Perform the Enterprise Modeling. This includes analyzing the existing business model, identifying the services, competitor analysis, problem identification, project definition, scope, critical success factors, etc

- Establish Scope. While gathering requirements, determine what initial iterations are needed and the scope of each iteration. Determine the technological challenges, budget constraints, staffing needs, desired billing relationship, etc.

- Define project parameters. This includes identifying the software title, version, desired quality, the target start date, target completion date, project type, software type, etc.

- Perform Technical strategy. At a minimum, discover if this software title has any potential reuse with other software titles (i.e. common database, code reuse, web services, etc.).

- Create and deliver a Business Case. A Business Case can be either a fixed bid (deliverables based) or time and material. With fixed bids projects, the description of deliverables must be complete and precise. With time and material projects (per hour), estimates should be given to the client on a regular basis.

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# UAD - Goals

## Architect

- Create initial project to-do list in the form of a Gantt chart or equivalent. If the software has a user interface, update the visual flow chart created during the requirements phase. If the software has a user interface, create a prototype based on the finalized visual flow chart. Deliver the functional prototype to the client.

- For database applications, create an Entity Relationship Diagram (ERD) and a data dictionary. A data dictionary is a list of the table fields usually in alphabetical order along with a field type definition and description of the data.

- If the development environment is an OO tool, then create a UML class hierarchy diagram and common class interaction diagrams. A class interaction diagram documents the message usage among a set of classes, what messages are passed, and when. With most software it isn't possible or practical to document all the message usage. Jus t document message usage sufficiently so the developers can implement the software with minimal hassles.

# UAD - Goals

## Architect

- Create a design specification. Move project parameters and chosen general design into the Design Specification and update and expand as appropriate.
- Update the requirements specification. For the robust solution is to have accurate requirements and design specification documents at the end of the project. These documents are used for future maintenance issues and iterations.
- If the project manager is using a Gantt chart to track tasks, establish the baseline Gantt chart at the end of the detail design phase.
- Although delivery of the documents marks the end of the detailed design phase, they can be updated in the next phase also. Deliver the digital prototype and freeze the system design

# UAD - Goals

## Deploy

- Deliver alpha versions of the software to the user participants for software functionality validation. An alpha version of the software contains completed modules, sections, or areas. The user participants validate the software functionality against the description of deliverables.

- Perform interim code reviews either by module or on a weekly basis. GMI recommends performing code reviews on a per module basis. Just prior to delivery of the final alpha (a final alpha contains 100% of known functionality), the most senior developer available should review the code with the developers and suggest code changes.

- The initial coding phase is complete when 100% of functionality is implemented (even with known defects) and the functionality has been validated with at least one alpha deliverable. Deliver beta 1 to the testers and/or the user participants.

- Update the design specification and remove details that are documented well by the source code. At this point, the purpose of the design specification is for future maintenance and iterations. The audience will be future developers.

- Test software functionality using the requirements specification. Log and prioritize any discrepancies found as defects.  Test software for defects using test plans. Log and prioritize any defects found.

# UAD - Goals

## Deploy

- The development team works on the high priority defects first. The user community should be available to validate the priority of defects.
- The development team should start the user acceptance phase once the testing with the test plans is complete and either all known high priority defects are fixed or the user community has indicated a desire to start the user acceptance phase (with knowledge of the status of the software).
- Deliver release candidate to user participants for user acceptance testing. If there are no known high priority defects, deliver the final release software; otherwise deliver the current release candidate. The customer needs to review the release candidate for high priority defects.
- Once all known high priority defects are fixed and the project team reasonably believes no more will be found, deliver a final release.
- Create UML Deployment Diagram. Create Deployment Specification. The Deployment Specification may include the UML Deployment Diagram, instructions, and a rollback plan, parallel testing plans, etc.  If needed, update final requirements and design specifications.
- Deploy software. Create post deployment report. Deliver final documentation (including post deployment report, final requirements specification and final design specification). Delivery of the final documentation marks the completion of the project.

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# UAD - Deliverables

| Phase | Deliverables | Track |
|---|---|---|
| **Understand** | Project Kick Off | Strategy |
| | Project Objective and Scope Review | Strategy |
| | Project Budgeting | Strategy |
| | Project Feasibility Report | Strategy |
| | Change Management plans | Strategy |
| | Communication Plans | Strategy |
| | Project Organization and Technical Approach | Project Management |
| | Project Schedule | Project Management |
| | Project Team Establishment | Project Management |
| | Project Management Plan | Project Management |
| | Business Case | Project Management |
| | | |
| **Architect** | Functional Design | Project Management |
| | Architectural Design | Project Management |
| | High Level System Design | Project Management |
| | Functional Prototype | Project Management |
| | Digital Prototype | Project Management |
| | | |
| **Deploy** | nth Level System Design | Project Management |
| | Test Plans and Specifications | Project Management |
| | Test Procedures | Project Management |
| | Test Reports | Project Management |
| | User Manual | Project Management |

GMI BRAINWORKS

# Communication

GMI defines the communication path along with the Business case. The complete hierarchy in the development team, GMI communication network and client communicator will be identified in the Understand phase. 24*7 accessibly will be given to the client with the GMI during the architect and deploy phase with concerned stream.

Instant messengers, Tele Conferences, Videoconferences would be used for communication purpose.  During Architect and Deploy phase the project manager creates an executive summary of the project status and delivers it to all members of the development team, management and identified user community members weekly. The project manager updates the project to-do list or Gantt chart that details the progress of the project as it relates to all work performed. Update the project to-do list either at the end of each module or on a weekly basis. GMI ensures 24*7 accessibility to clients to make the development process smooth and robust.

# People Management

GMI believes people management is a critical issue in any Software Development Process. GMI identifies 3Ps governing the software development process. They are Process, People and Product. At GMI we believe client is also a part of the project team. Each member of the project team should understand the role each project team member fills during the software development process. The project manager is responsible for making sure all roles are filled. The project manager can assign a different member to each role defined below, but because of the availability of resources and in certain cases, it is more common to assign a project team member to more than one role as necessary. What is important is that all the roles are covered by at least one project team member.

# Client

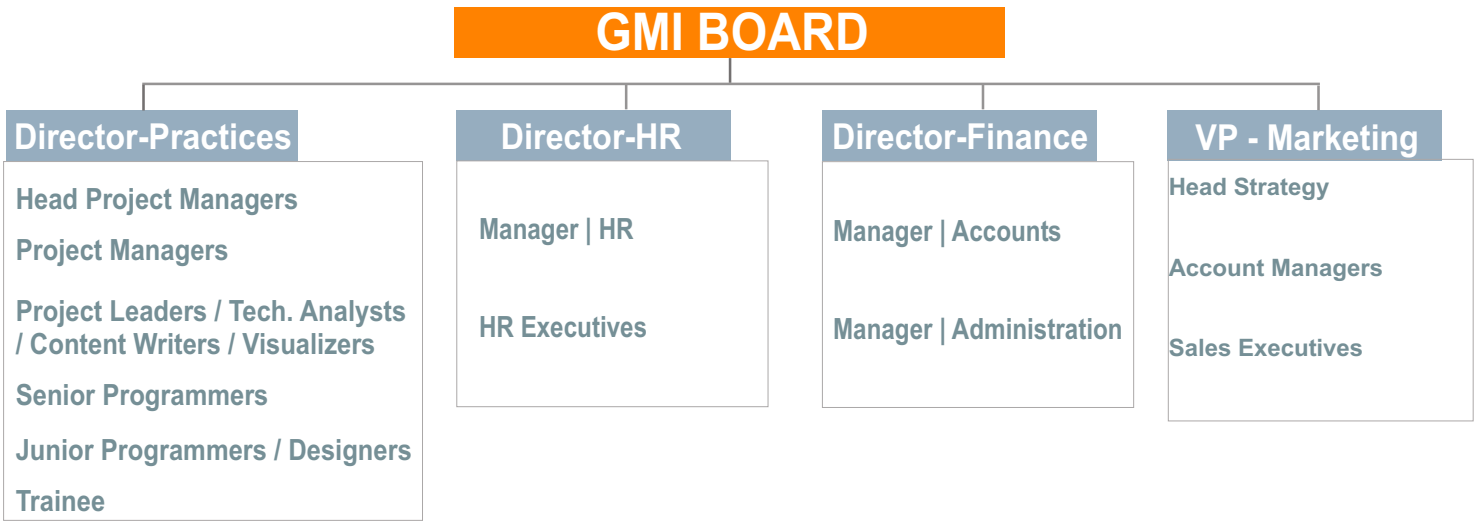
A client is the person or organization paying for the project. The client is responsible for establishing scope and makes final decisions. GMI recommends a formal project review in every four to six weeks. Review the project, usually with the project manager, for direction, scope, and quality. Often, there are conflicts among the end-user participants that only the executive sponsor can resolve. Also, the client designates the person or persons that approve various aspects of the project including requirements, design, and the final software.

# User Community

User Community works as close as possible with the development team in order to guide and educate developers, and validate software features. An end-user is a user of the software. Sometimes the user community must define types of end-users. For example, the development team for a typical business database application may need to define a data entry end-user, a manager end-user, and an administrator end-user. For a web site, the development team may need to define member, non-member, and administrator end-users.

# GMI Organisation Structure

Grey Matter India has designed a flat organizational structure to improve the organizational efficiency. The whole organization can be streamlined into four basic divisions namely Practice, Business Development, Finance and Human Resources. Practice Takes care of Technology and UAD process and this unit is headed be Director Practice. Business Development div. Headed by VP- Marketing formulates the GMI marketing strategy and fulfillment of organizational goals and vision. Finance track lead by Director Finance takes care of financial activities and organizational growth. Human resources division build-up the organizational talent pool by resource acquisition and talent hunting.




GMI BRAINWORKS

# GMI Organisation Structure

## Director - Practices

He is responsible for identifying the technology trends and acquiring the required competencies to update the Competency Pool. He is also responsible for execution of solution in the planned way. Minimization of Variance is the critical role of Practice Director. He owns the particular practice and responsible for making practice a Profit Making arm of GMI. He also looks after building up technology alliances to venture into new technology domain and achieve customer delight.

## Head Project Manager

Head Project Manager is One Point Communicator to director Practice and he is sole responsible for execution of assignments. Through understanding of UAD process and Project Management skills are his critical qualities to minimize the variance. He plays a major role in preparing the Business Case, Architecting the solutions, building up a strong project team and deploying the quality solution at planned way.

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# GMI Organisation Structure

## Project Manager

Project manager is responsible for assigning tasks, tracking tasks, and keeping the project on schedule. Project Manager also takes care of even distribution of work and efficient usage of available resources amongst the individual members of the Project team. The Project Manager is the glue that keeps the project team together, focused on current tasks, and working toward a completed project. GMI project managers are technical project managers, i.e., they have a very strong technical background in their domain of working. A Technical Project Manager often doubles as the software architect or lead Technical Analyst; otherwise, a dedicated system architect or a lead programmer fulfills the software architect role. The Project Manager is responsible for coordinating efforts among the user community and the development team, in fact various components of the team. Also Project Managers are the key communicators to the management about the project status.

## Developer

The members of GMI developers community includes

Project Leader/Technical Analyst
Database Administrator
Sr.Programmer
Jr.Programmer
Graphics Designer

## Content Writer

This person creates user documentation including help files and user manuals. The content writer will lead this role at GMI.

# GMI Organisation Structure

## Quality

This team will test for the software for functionality and defects. The process testers makes sure all the checkpoints are completed and monitors the specific methods used to complete discreet development tasks. GMI uses 3rd party for testing purpose.

## VP - Marketing

He leads the GMI business development team by strategizing the marketing plan and executing the marketing plan. He is responsible for setting up marketing alliances, building up industry focus and client management. He is One Point Communicator to the management and sole responsible for achievement of positive growth of the organization.

## Head Strategy

He is own all the verticals and strategize the industry focus. He identifies the market potential and builds up the industry competencies. He is also sole responsible for identifying the alliance partners and executing the Understand phase of the project. He plays a major role in Requirement Gathering and Problem Identification. The strong domain knowledge is his critical requirements and builds up a strong strategy team.

## Account Managers

Account Managers are responsible for managing the client relationships and alliance partners. At GMI we have account managers based on geographic distribution of our clients and alliance partners, Account Managers acts as communicator between clients and Management in post deployment phase.

GMI BRAINWORKS

# GMI Organisation Structure

## Sales Executives

Sales team acts as communicator between client and strategy team in the Understand Phase. They are most deployed on on-site to initiate the understand phase. They bridge the gap between pre-sales and project initiation. They play a major role in Understand phase to kick off the project.

## Team Dynamics

The dynamics of the team are defined by the skill sets and experience each team member brings to the process. This includes each team member's experience and skill working in a team environment. These dynamics often evolve over the life cycle of a project where team members acquire knowledge and skills from other team members, and improve their workgroup behaviors. At GMI we encourage our team by conducting regular workshops, team events, knowledge management courses, required training and brainstorming  sessions

## Individuality

At GMI we respect individuality of every team member. At GMI we follow only widely accepted industry practices to retain Individuality.

## Ownership

Each phase of software iteration will require key players in the team who take ownership of efforts within that phase. Delegation of tasks to team members within a phase is essential, and the Philosophy of ownership requires each team member to trust other team members to complete the tasks assigned to them. At GMI, reviews are used to ensure integrity, quality, and cross training.

# Culture

GMI has adopted an open yet organized culture to simplify the communication and reduce the hierarchies. At GMI it is UAD process that executes the solution. The open work culture builds the trust between Management and Developers and results in a more harmonious atmosphere, conducive to better output from everyone. The regular open forums between Management and Developers are conducted to expose Management vision and strategies. These Forums also act as individual member's platform to participate in molding company's Future. Involving developers in strategizing the corporate vision would form a transparent, open corporate culture.

For More Details Visit: **www.greymatterindia.com**
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