1. **Research Methodology**

This section lists and discusses the specific steps and activities that will be performed by the proponents to accomplish the project.

Examples of activities include inquiry, survey, research, brainstorming, canvassing, consultation, review, interview, observe, experience, design, test, document, etc. The methodology also includes the following information:

Who is responsible for the task?

The resource person to be contacted

What will be done?

When and how long will the activity be done?

Where will it be done?

Why should the activity b done?

1. **Theoretical Framework**

This section discusses relevant theories and discusses relevant theories and concepts to be used in the course of designing or developing the thesis. The research should have a clear relationship to a theory.

The framework for the investigation should either be pragmatic, electric, or focused on a single theory, with a brief explanation of why and how. A pragmatic study is one that pertains to a primarily concerned with practical results or outcomes. Proposals that are electric from a variety of theories or systems of thinking rather than building on or testing some part of one theory, Finally, there are many studies that aim specifically at challenging or attempting to validate theories or attesting the accuracy of predictions made from specific theories.

The framework should be stated with appropriate reference to the primary sources where full information on the applicable theories or systems of thought may be found.

Include only the concepts that you feel will be needed. DO NOT COPY THE WHOLE SOURCE MATERIAL.

1. **The <PROPOSED SYSTEM>**

This section gives the overall specifications and functional requirements of the software to be developed.

**5.1 System Overview**

This section gives an overall view of the main features and capabilities of the software to be developed.

* 1. **System Objectives**

This section states the specific requirements that must be met by the system.

* 1. **System Scope and limitation**

This section discusses the scope and limitation (i.e., the level of capability or extent of power) of each major function. This means that operations which are beyond the identified limits, will simply be invalidated/ignored, and will not cause the system to malfunction, but instead cause the system to respond with error messages.

Justifications for the identified limitations and assumptions must be included here. Assumptions are the conditions that must be satisfied or things that must be existing/available/followed in order for the system to function properly. Ignoring such assumption might result in system malfunction, which will not b the responsibility of the proponents.

* 1. **Architectural Design**

This section presents the initial internal design of the system by discussing its major components and their interaction. These components include the software components (e.g., modules, database system, etc.), as well as the hardware components (e.g., processors, devices, etc.). The components and their interaction are graphically represented using design tools, such as hierarchical charts, structure charts or object models. Data flow diagrams may also be included to show how information passes among processes, In addition, discussion on why certain alternative and trade-offs were chosen must be included (e.g., issues on software decomposition, cost of hardware).

The following design tools should really be seen in this part if the thesis project is a Web based system.

1. **Data Tree**. This represents a hierarchy of content objects.
2. **User Hierarchy**. This provides you with a snapshot of the user population and a cross-check to help ensure that the needs of the every user have been addressed.
3. **Use – Cases**. This section is developed for each user category described in a hierarchical structure. After the diagram, a narrative paragraph that describes a specific interaction between a user and the WebApp should follow.
4. **Class Diagram**. Class diagrams show the class name, attributes, methods and processes involved in each classes.
5. **Sequence Diagrams**. This diagram provide a shorthand representation of the manner in which user actions ( the dynamic elements of a system defined by use-cases) collaborate with analysis classes (the structural elements of a system defined by class diagrams).
6. **Activity Diagram.** This diagram is used to model a process. It models the actions (or behaviors) performed by the components of a business process or IT system, the order in which the actions take place, and the conditions that coordinate the actions in a specific order. Activity diagrams use swim lanes to group actions together. Actions can be grouped by the actor performing the action or by the distinct business process or system that is performing the action.

The following design tools should really be seen in this part if the thesis project is Structured Modeling System.

1. **Entity Relationship Diagram (ERD).** This diagram models the relationships between entities in a database.  Standard symbols are used to represent different types of information.  The conventional notation uses rectangles to represent entities (nouns), diamonds to represent relationships (verbs) and ovals to represents attributes of entities.  Other notations are sometimes used.
2. **Data Flow Diagram (DFD).** It models the system as a network of functional processes and its data. It documents the system’s processes, data stores, flows which carry data, and terminators which are the external entities with which the system communicates.
3. **Context Diagram.** It is a special form of a data flow diagram that represents an entire system as a single process and highlights the interactions between the system being analyzed and other systems or people that interact with it.
4. **System Flowchart**. It is a means of visually presenting the flow of data through an information processing systems, the operations performed within the system and the sequence in which they are performed.
5. **Database Schema and Data Dictionary**.

The following design tools should really be seen in this part if the thesis project is in Object Oriented Approach.

1. **Use Case Diagram.** Thisdiagram provides a high-level

graphical view of the functionality (use cases) supported by the system and shows which roles (actors) can invoke each use case.  This high-level view of the system provides a context for the readers of the more detailed use case specifications.

1. **Use Case Description.** This part shows the description of the different use cases and its uses.
2. **Activity Diagram.**
3. **Class Diagram.** Thisdiagram that describes the structure of a system by showing the classes of a system, the attributes and operations that belong to each class, and the relationships between the classes.
4. **Sequence Diagrams** is a UML diagram that depicts interactions among various application components or participants over time, including but not limited to system objects, actors, and other systems or services, in order to accomplish a task.
   1. **System Function**

This section provides a listing of all the functions that must be performed or delivered by the system, and a description of each.

**5.6 Physical Environment and Resources**

This section discusses the hardware and software resources needed to implement and to execute the system. If the system has a special set of target users, this section also includes the user specification (e.g., educational level experience, and technical expertise). For certain uncommon resources, a discussion of why such resources are necessary must also be included.

1. **Calendar of Activities**

This section contains the Gantt chart showing schedule of the activities.

The following table is an example of a Gantt chart:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ACTIVITY** | **JUN** | **JUL** | **AUG** | **SEP** |
| **Data Gathering** | **\*\*\*\*\*** | **\*\*** |  |  |
| **Software Requirements Analysis** |  | **\*\*\*\*** | **\*\*\*\*** | **\*\*\*\*** |
| **Initial Architectural Design** |  |  |  | **\*\*\*** |

**Appendix A Bibliography (***see Appendix P)*

An appendix is the place for important table, displays or other items too long and detailed to be in the proposal’s main body. It is needed to present drafts of letters to be sent, briefs or related research, as well as questionnaires and/or interview schedules, tests.