



Asian Development Foundation College
P. Burgos St. Tacloban City
RESEARCH FRAMEWORK DIP-IT

Throughout the research process, refer back to the framework's guidelines frequently to ensure full compliance with all requirements and expectations. Following these instructions meticulously will help produce a research document that meets the standards set forth by the framework.

Research Cover Page



Asian Development Foundation College
P. Burgos St. Tacloban City
COMPUTER STUDIES DEPARTMENT

TITLE

Final Requirement

Presented to

The Faculty, Computer Studies

Asian Development Foundation College

Tacloban City

In Partial Fulfillment

of the Requirements for the Final Output

for Diploma BSIT

Members:

June 2024

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CHAPTER I. INTRODUCTION		Description
Background of the Study		Is a critical part of a research paper that provides context and sets the stage for the research. It begins with an introduction to the topic, explaining what the research is about and its significance. This section includes a summary of existing knowledge, highlighting key studies and findings that have been previously published. It then identifies gaps or unresolved issues in the current understanding, pointing out what is not yet known or what problems need to be addressed. The background also explains the purpose of the new research and its relevance, demonstrating why it is necessary and how it will contribute to advancing the field. By doing so, it helps readers understand the rationale behind the research and its potential impact.
Statement of the Problem		Identifies and articulates the specific issue or gap that the study will address. It outlines the nature of the problem, providing a detailed description of its context and significance. This section explains why the problem is important, who it affects, and the consequences of not addressing it. By clearly stating the problem, this section sets the direction for the research objectives and questions, guiding the entire study. It helps readers understand the focus of the research and underscores the need for investigation and potential solutions.

Theoretical Framework	<p>The Theoretical Framework is a vital part of a research paper that outlines the theories and concepts that form the foundation of the study. It involves a review of existing theories related to the research topic and explains how these theories will be applied to the research problem. This section helps to position the study within the broader field of knowledge, showing how it builds on or challenges existing theories. By providing a clear theoretical basis, the framework guides the research design, methodology, and analysis, ensuring that the study is grounded in established knowledge. It also helps to interpret the findings and relate them back to the original theories, enhancing the overall credibility and validity of the research.</p>
Conceptual Framework	<p>Is an essential part of a research paper that maps out the key concepts, variables, and their relationships within the study. It is a visual or written representation that explains how the research problem will be explored. This framework identifies the main ideas and constructs that will be investigated and shows the connections between them. By defining these relationships, the conceptual framework guides the research design, data collection, and analysis. It provides a clear roadmap for the study, helping to ensure that all aspects of the research are aligned with the objectives. This framework also helps readers understand how the researcher's hypotheses and theories are logically connected, making the study's approach and focus more transparent.</p>
Scope and Limitations	<p>The scope defines the specific aspects of the research topic that will be addressed, including the time period, location, subjects, and variables considered. It sets clear boundaries to ensure the research remains focused and manageable. On the other hand, the limitations acknowledge the potential weaknesses and constraints that might affect the study's results or generalizability. These might include limitations in methodology, sample size, data availability, or external factors beyond the researcher's control. By clearly stating the scope and limitations, this section helps readers understand the extent</p>

	and credibility of the research findings and provides a balanced view of what the study can and cannot achieve.
Objectives of the Study	Clearly states the specific goals and aims that the research intends to accomplish. These objectives provide a focused direction for the study, detailing what the researcher seeks to find out or prove. Typically, the objectives are broken down into general and specific objectives. The general objective gives an overall statement of the purpose of the research, while the specific objectives break this down into more detailed, actionable goals. These might include identifying relationships between variables, understanding specific phenomena, or evaluating the effectiveness of a particular intervention. Clearly defined objectives guide the research process, help in the development of research questions and hypotheses, and provide a framework for data collection and analysis. They ensure that the study stays on track and that the research findings are aligned with the original aims of the investigation.

CHAPTER II. RRL & Systems

Related Literature (Local, National & International)	The Related Literature section provides a comprehensive review of previous research and publications related to the study's topic, encompassing local, national, and international perspectives. This section begins with an overview of local literature, highlighting studies and findings from the immediate geographical area or community where the research is conducted. It then expands to national literature, discussing research conducted within the country, which helps to understand broader trends and issues at a national level. Finally, it includes international literature, presenting global research findings and theories that provide a wider context and show how the topic is addressed worldwide. Reviewing related literature helps to identify gaps in the existing knowledge, establish the relevance of the current study, and position it within the broader academic and practical landscape.
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	This thorough examination ensures that the research is grounded in established knowledge while also identifying new areas for exploration and contribution.
Related Systems (Local, National & International)	The Related Systems section of a research paper examines existing systems, technologies, or practices that are relevant to the research topic, considering examples from local, national, and international levels. It begins with a discussion of local systems, describing how the topic is addressed within the immediate community or region. This includes local innovations, implementations, and their impacts. The section then expands to national systems, exploring how the topic is managed or utilized across the country, highlighting any national programs, policies, or technologies. Finally, it includes international systems, presenting global approaches and best practices from other countries. This comprehensive review of related systems helps to contextualize the research, showcasing what has been done elsewhere and identifying best practices and gaps that the current study aims to address. It provides a comparative perspective that enhances the understanding of the topic and supports the development of new solutions or improvements.

CHAPTER III. TECHNICAL BACKGROUND

Current System	The Current System section of a research paper provides a detailed description of the existing system, process, or situation that the research is focused on. This section explains how things currently operate, including the methods, technologies, practices, or policies in place. It covers the strengths and weaknesses of the current system, identifying any problems or inefficiencies that need to be addressed. By offering a thorough understanding of the current state, this section sets the stage for why the research is necessary and what improvements or innovations it aims to propose. It helps readers understand the baseline from which the research is starting and provides a context
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	for evaluating the potential impact and benefits of the proposed changes or solutions.
Proposed System <ul style="list-style-type: none"> • Hardware • Software 	<p>The Proposed System Hardware and Software section of a research paper describes the technological infrastructure and tools that will be employed in the proposed system. It details the hardware components, such as computers, servers, networking devices, sensors, or any other physical equipment required to support the system's operations. Additionally, it discusses the software aspects, including the applications, programming languages, databases, algorithms, or other software solutions needed to implement the proposed system. This section may also include considerations for compatibility, scalability, security, and any specific requirements or constraints related to the hardware and software choices. By delineating the proposed technological framework, this section helps readers understand the technical feasibility and implementation details of the proposed system. It provides insights into how the chosen hardware and software components will enable the system to achieve its objectives and meet the needs of users or stakeholders.</p>

CHAPTER IV. METHODOLOGY

Research Design	Research design refers to the overall strategy or plan that a researcher employs to answer their research questions or achieve their research objectives. It outlines the structure of the study, including the methods, procedures, and techniques used to collect and analyze data. A research design can vary based on the nature of the study, the research questions being addressed, and the available resources.
Software Development Life Cycle	The Software Development Life Cycle (SDLC) is a step-by-step framework that guides the development of software applications from conception to completion. It typically consists of several phases, including planning, analysis, design, implementation, testing, deployment, and maintenance.

Black-Box & White Box Testing	<p>Black-box testing is a testing technique where the internal workings of the software are not known to the tester. Instead, the tester focuses on the external behavior and functionality of the software. In other words, the tester treats the software as a black box, testing it based on its input and output without knowledge of its internal code structure. Black-box testing is often used to validate that the software meets specified requirements, functionalities, and user expectations. Testers design test cases based on the software's specifications and requirements, aiming to uncover defects, errors, or inconsistencies in its behavior.</p> <p>White-box testing, also known as clear-box or structural testing, is a testing technique where the tester has access to the internal code and design of the software. Unlike black-box testing, white-box testing focuses on examining the internal logic, structure, and implementation of the software. Testers analyze the code paths, control flows, data flows, and internal variables to design test cases that exercise different parts of the software and uncover potential errors or vulnerabilities. White-box testing is often used to validate the correctness, completeness, and efficiency of the software's code, as well as to identify potential security vulnerabilities or optimization opportunities.</p>
GANTT Chart	<p>A Gantt chart is a popular project management tool used to illustrate the timeline and progress of tasks or activities within a project. It consists of a horizontal timeline axis representing the project duration and vertical bars representing individual tasks or activities. Each bar is positioned along the timeline to indicate its start and end dates, with the length of the bar representing the duration of the task. Gantt charts also include additional elements such as milestones, dependencies, and task relationships to provide a comprehensive overview of the project schedule. By visually displaying the timing and sequence of project activities, Gantt charts help project</p>

	managers and team members track progress, identify dependencies, allocate resources, and manage timelines effectively. They are widely used across various industries to plan, monitor, and control project schedules and ensure successful project delivery.
PERT Chart	A PERT chart is a project management tool that visualizes the sequence of tasks and their interdependencies within a project. It consists of nodes, which represent project tasks, and directed lines, which connect the nodes to illustrate the dependencies between tasks. Each task node includes information such as its name, estimated duration, and any predecessors or successors. PERT charts often use different shapes or colors to represent different types of tasks or milestones. Unlike Gantt charts, which focus on scheduling and timing, PERT charts emphasize the logical flow and relationships between tasks. They are particularly useful for complex projects with many interdependent tasks, allowing project managers to identify critical paths, allocate resources, and manage risks effectively. PERT charts help project teams visualize the project's scope, identify potential bottlenecks, and optimize the project schedule to ensure timely completion.
Dataflow Diagram	A diagrammatic representation that illustrates the flow of data within a system. It consists of various components, including processes, data stores, data flows, and external entities. Processes represent the activities or functions within the system that transform data, while data flows represent the movement of data between processes, data stores, and external entities. Data stores are repositories where data is stored within the system, and external entities represent sources or destinations of data outside the system boundary. DFDs use standardized symbols and notation to depict these components and their interactions, providing a clear and concise overview of the system's data flow.
System Flowchart	Also known as a system flow diagram, is a graphical depiction of the processes, data, and decision points within a system. It uses

	<p>standardized symbols and shapes to represent various elements, such as processes, inputs/outputs, data storage, and flow paths. Processes are depicted as boxes, representing specific activities or tasks performed within the system. Arrows indicate the flow of data or control between processes, showing the sequence of operations. Data storage, such as databases or files, is represented by rectangles, while decision points or conditional logic are represented by diamonds. System Flowcharts provide a visual overview of how information flows through the system, from input to output, and how different processes interact with each other.</p>
Entity Relationship Diagram	<p>An Entity-Relationship Diagram (ERD) is a modeling technique used in database design to illustrate the relationships between different entities within a database system. It consists of three main components: entities, attributes, and relationships. Entities represent real-world objects or concepts, such as customers, products, or orders. Attributes are the properties or characteristics of entities, while relationships define how entities are related to each other. ERDs use standardized symbols to represent these components, with entities depicted as rectangles, attributes as ovals, and relationships as lines connecting entities. Cardinality indicators, such as "one-to-one," "one-to-many," or "many-to-many," specify the type and degree of relationship between entities.</p>
Database Normalization	<p>A method used to structure data in a database to minimize redundancy and dependency, leading to better organization and efficiency. It involves breaking down large tables into smaller, related tables and applying rules to ensure data integrity. The process typically consists of several normal forms, with each form representing a specific level of normalization. The most commonly used normal forms are First Normal Form (1NF), Second Normal Form (2NF), and Third Normal Form (3NF).</p>
Use Case Diagram	<p>A graphical depiction that illustrates how users interact with a system to achieve</p>

	<p>specific goals or tasks. It consists of actors, use cases, and relationships between them. Actors represent the users or external systems interacting with the system, while use cases represent the specific functionality or features of the system that fulfill users' needs. Actors are depicted as stick figures, and use cases are represented as ovals. Relationships between actors and use cases are depicted as lines, indicating the communication or interaction between them. Use Case Diagrams help to visualize the requirements of a system from a user's perspective, identify the different roles and responsibilities of users, and define the system's functionalities and boundaries.</p>
Program Tools	<p>Program tools encompass a wide range of software applications and utilities that programmers use to facilitate the development and maintenance of software projects. These tools include integrated development environments (IDEs), text editors, version control systems, compilers, debuggers, code analysis tools, and testing frameworks, among others. IDEs, such as Visual Studio, Eclipse, and IntelliJ IDEA, provide a comprehensive development environment with features like code editing, debugging, and project management. Text editors like Sublime Text, Atom, and Visual Studio Code offer lightweight, customizable platforms for writing and editing code. Version control systems like Git and Subversion enable collaboration and versioning of code repositories. Compilers and interpreters convert source code into executable programs or scripts. Debuggers help programmers identify and fix errors in their code, while code analysis tools provide insights into code quality, performance, and security issues. Testing frameworks assist in automated testing and validation of software functionality. Programmers rely on these tools to streamline the development process, improve code quality, and enhance productivity throughout the software development lifecycle.</p>



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CHAPTER V. RESULTS AND DISCUSSION
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Only include the image of your system, with description provided below	
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REFERENCE (APA style)

REQUIREMENTS

User's Manual , Database, Flash Drive, Book bind Paper
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Instructions:

1. Font style – Time New Roman
2. Font size – 12
3. Margin Top – 1 inch
4. Margin bottom – 1inch
5. Margin Left – 1.5 inches
6. Margin Right – 1 inch
7. Bond paper size – A4