Discussion on Internship Report Content and Format

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Project vs Internship

- Internship may involve project or part of project.

- Thus we can say that doing project is doing project, where students works as junior level IT professional under the guidance of some senior level IT professional(s).

Where Students Can do Internship?

- Any Organization
- Responsibilities assigned to students is important
- Students can choose organizations where he/she is assigned to responsibilities like Developer, Designer, Network/System Administrator, Database Administrator, RA etc.
- Designer????? At least student should work as Front End developer.

Internship Report Structure

- Front Part
- Body Part
- End Part

Internship Report Structure

Front Part

→Cover Page
→Recommendation Letters
→Letter of Approval/Certificate
→Acknowledgement
→Abstract
→List of Figures
→List of Tables
→List of Abbreviations
→Table of Content …..

Use roman page numbering.

How to Make Internship Report?

Body Part: Tentative Chapter Division

- Chapter 1: Introduction
- Chapter 2: Literature Review (optional)
- Chapter 3: Analysis
- Chapter 4: Design

Can be merged

- Chapter 5: Implementation
- Chapter 6: Testing

Can be merged

- Chapter 7: Conclusion

How to Make Internship Report?

Chapter 1: Introduction (Tentative Outline)

1.1 Introduction:

Introduce your project, Scope of the project/system, Limitations of Project/system, Brief Introduction of Organization, Duration of Internship

1.2 Background (if necessary)– *Discuss terminologies and systems that readers need to know to understand the project*

1.3 Problem Statement

Focus on problems with existing systems

How did your project overcome theses problems

How to Make Internship Report?

Chapter 1: Introduction (Tentative Outline) Cont.

1.3 Objectives

List objectives of project assigned to you

1.4 Responsibilities Assigned

Brief Introduction of responsibilities assigned to students

1.5 Motivation – *Why you are motivated to select the area, company etc?*

1.6 Report Organization

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Chapter 2: Literature Review (Optional)

Discuss Related Systems/Projects/Products/ Papers etc.

Encourage students to include LR.

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Chapter 3: System Analysis (Tentative Content)

3.1 Requirement Collection

→***Traditional Methods:*** *Interview, Questionnaire, Observation, Study of related documents/methods, procedures/systems.*

→***Modern Methods:*** *JAD, Prototyping,*

→*Are you involved in requirement collection? If yes, discuss techniques/technique used in requirement collection for the project. If no, simple state that it is already done by somebody else and you are not involved.*

→***Caution:*** *It is not handouts of requirement collection methods*

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Chapter 3: System Analysis (Tentative Content)

3.2 System Requirements

- **Functional Requirements**

  List functional requirements of the project

  Students can express requirement by using use case diagram

  Encourage students to include scenario description for each use case.

- **Non-function Requirements**

  List non-functional requirements of the project

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Chapter 3: System Analysis.. (Tentative Content)

3.3 Feasibility Study

→ *Technical Feasibility, Operational Feasibility, Economic Feasibility, Schedule Feasibility etc.*

→ *No need to include definition and explanation of theses dimensions*

→ *Justify why the project is feasible on above dimensions.*

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Chapter 3: System Analysis.. (Tentative Content)

3.4 Data Model of the System– *Draw ER diagram*

3.5 Process Model of the System

Structured Approach

Draw Context diagram, Level-0 DFD, encourage students to include Level-1 DFD's

OO Approach

Identify Classes, Attributes and Relationships between classes

Draw Business Layer Class Diagram: Enough to include class name, attribute names, relationship names

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Chapter 3: System Analysis Contd..

→*All sub-topics may not be relevant for all kinds of reports. Students need to decide whether particular sub-topic is relevant for his/her report?*

→*For example, process modeling may not be relevant for students who do internship as DBA. But Students can focus in using EER modeling features, Details of Attributes etc.*

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Chapter 3: System Analysis Contd..

→*Both process modeling and data modeling may not be relevant for students who do internship as Network Administrator.*

→*Some additional sub-topic may be relevant for students who do internship as NSA/DBA or others.*

→*For example, sub-topics "Subnetting Issues", "Firewall Policy", "Analysis of Frequent Problem", etc may be suitable may be suitable to include in reports of students who do internship as NSA.*

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Chapter 4: System Design (Tentative Content)

4.1 Architectural Design

Draw Architectural diagram of the System that shows all major components in the system and interaction between them

4.2 Database Design

Draw Schema diagram of database used

4.3 Process Design

Either use Structured Approach or Object Oriented Approach

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Chapter 4: System Design.. (Tentative Content)

If Structured Design methodology is used, draw

- *Diagram representing Algorithmic hierarchy of System,*
- *Represent algorithms used by using flowchart or pseudocode (component level design)*

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Chapter 4: System Design.. (Tentative Content)

If OO Design methodology is used, draw

- *Draw class diagram of the System: Include data types/visibility of attributes, include operations along with their return types and visibility. Some classes included in analysis phase may disappear, some new classes may be introduces. Relationships may need to be refined.*
- *Encourage students to add view layer classes and data access layer classes.*
- *Draw sequence diagram for each primary use case in use case diagram*
- *Represent methods by using activity diagrams.*

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Chapter 4: System Design.. (Tentative Content)

→Again these sub-topics may not be relevant for all students

→Students who do internship as DBA may include subtopics like

- →*Normalization of Database (At least up to BCNF)*
- →*Design of Constraints, Stored Procedures etc.*
- →*Design of Authorization- include authorization graph etc.*

→Student who do internship as NSA may include subtopics like

- →*Design of Network Topology*
- →*Choice of Communication Devices/servers*
- →*Protocols Needs to be Configured in devices/servers etc.*

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Chapter 5: Implementation (Tentative Content)

5.1 Front End Tools

Like Javascipt, CSS, HTML, Frameworks, etc.

5.2 Back End Tools

Like MySQL, Server Side Scripting etc.

Discuss purpose of theses tools in the project

5.3 Data Structures (if any)

Discuss purpose of the data structures in the project

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Chapter 5: Implementation (Tentative Content)

5.4 Development Methodology

Which software development methodology is adopted and why?

5.5 Algorithms (if any)

Write down pseudocode or draw flowcharts of algorithms used in the project, if any

How to Make Internship Report?

Chapter 5: Implementation (Tentative Content)

→ Again these sub-topics may not be relevant for all students

→ Students who do internship as DBA may include subtopics like

- → *Performance Enhancing Strategies- like creation of Index*
- → *Backup and Recovery Strategies*
- → *Sample Scripts of Grant, Revoke, Triggers, Stored Procedures etc*

→ Student who do internship as NSA may include subtopics like

- → *Device/Server Configuration Details*
- → *Protocols Configuration Details*
- → *Strategies Implemented for QOS etc.*

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Chapter 5: Testing (Tentative Content)

6.1 Test Case Design – At least Unit Test Case

Design Test cases for each module or set of modules like below:

Test Case for Login

SNO	Input	Expected Output
1	User ID: abc Password: xyz	Successful login
2	User ID: abc Password: pqr	Unsuccessful login *User ID or password is incorrect*
3	…	……

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Chapter 6: Testing (Tentative Content)

6.2 Test Execution

Execute each test case designed for each module or set of modules like below:

Test Result for Login

SNO	Input	Actuatl Output	Remarks
1	User ID: abc Password: xyz	Successful login	Test Succeed
2	User ID: abc Password: pqr	Successful Login	Test Failed
3	…	……	

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Chapter 6: Testing (Tentative Content)

→Students need to include details of reasons behind each *Test Fail* and modifications done to fix the bug.

→Students who do internship as DBA may include subtopics like

→*Test Cases and Test Result for authorizations provided, Triggers/Assertions/Stored Procedures created, Other Constraints imposed etc*

→Student who do internship as NSA may include subtopics like

→*Test Cases and Test Results for device configurations, Protocol Configurations, QOS implementation etc.*

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Chapter 7: Testing (Tentative Content)

7.1 Conclusion

7.2 Lessons Learnt

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End Part

→Appendices/ Annexes

→References

→Bibliography

Use APA Format for Referencing and Citation

Citation

Paging is a memory management strategy used by the virtual memory system in which each program is divided into a number of blocks called pages and, the main memory is also divided into a number of blocks called frames (Tanenbaum, 2008).

The typical cases where weak locality of page references occur include file scanning, regular accesses over more block than the memory size, accesses pages with distinct frequency (Zhan et al., 2008).

LIRS algorithm (Jiang & Zhang, 2002) uses Inter-Reference Recency (IRR) history instead of just access recency for making a replacement decision.

How to Make Internship Report?

End Part

References

Jiang S. and Zhang X. 2002. LIRS: An Effective Low Inter-Reference Recency Set Replacement Policy to Improve Buffer Cache Performance. Proc. SIGMETRICS: 31-42.

Tanenbaum, A. S. 2008. Modern Operating Systems. PH1 publications, Third Edition: 188p

Zhan-sheng, L., Da-Wei, L. and Hui-juan, B. 2008. CRFP: A Novel Adaptive Replacement Policy Combined the LRU and LFU Policies. IEEE 8th International Conference: 78-79

How to Make Internship Report?

Report Formatting

Font--Times New Roman with font size 12, Line Spacing – 1.5, Margins- top, bottom, left, right

Heading- Chapter name-16 bold, Main Heading 14 bold, Sub-Heading 12 bold

Figure/Table numbering: e.g. Figure 4.1: Figure Name for first figure in chapter 4 and so on. Likewise Table Numbering

Headings:

5.1 Tools Used

5.1.1 Front End Tools

- *JavaScript …..*

5.1.2 Back End Tools

- *MySQL ……*

Use page numbering 1, 2, 3…. in Body part and onward.