“Lab 1: Terms and Concepts”

Harsh Siddhapura

“Ira A. Fulton Schools of Engineering, Arizona State University”

“IFT 540: Information Systems Development”

Dr. Derex Griffin

August 26, 2023

“Provide the definition from the Tiley textbook below.”

1. **“Systems Planning”**

(a) “Business Case” : A business case is a comprehensive rationale for a project or investment that includes an examination of the project's predicted benefits, costs, risks, and alignment with organizational goals. It gives decision-makers the information they need to assess the project's feasibility and prospective value. Business Case refers to “the reasons, or justification, for a proposal” (Tilley, 2019, Glossary).

(b) “Stakeholders” : Individuals, groups, or entities with vested interests in a project, organization, or initiative are referred to as stakeholders. Internal parties such as staff and management can be included, as can external parties such as customers, suppliers, regulatory authorities, and the community. Stakeholder participation and communication must be managed effectively for project success. Stakeholders refers to “anyone who is affected by the company’s performance, such as customers, employees, suppliers, stockholders, and members of the community” (Tilley, 2019, Glossary).

(c) “Work Breakdown Structure” : It refers to “a project broken down into a series of smaller tasks” (Tilley, 2019, Glossary). It is a methodical division of project work into smaller, well-defined components that is commonly depicted as a tree-like figure. Each level of the WBS divides the project's scope into progressively smaller and more manageable tasks, making it easier to plan, estimate, allocate, and monitor labor.

2. **“Systems Analysis”**

(a) “Business Logic” : Business logic encompasses the set of rules, algorithms, and processes that govern the behavior of an organization's operations, data processing, and decision-making. It defines

how data is transformed, validated, and used to support various business functions and objectives. They are “rules to determine how a system handles data and produces useful information, reflecting the operational requirements of the business. Examples include adding the proper amount of sales tax to invoices, calculating customer balances and finance charges, and determining whether a customer is eligible for a volume-based discount. Also call business rules” (Tilley, 2019, Glossary).

(b) “Data Flow Diagram” : It refers to a “graphical representation of the system, showing it stores, processes, and transforms data into useful information” (Tilley, 2019, Glossary). A Data Flow Diagram (DFD) is a graphical depiction of data movement inside a system or process. It depicts processes, data storage, data flows, and external entities using symbols, demonstrating how data is entered, processed, stored, and produced. DFDs aid in the comprehension of system functionality and communication.

(c) “Functional requirement” : A functional requirement is a thorough description of a certain capability, activity, or behavior that must be included in a system or programme. It specifies what the system should do, including input conditions, processing processes, and expected output under various scenarios. The system's design, development, and testing are guided by functional requirements. It refers to “a statement of the services a system provides” (Tilley, 2019, Glossary).

3. “Systems Design”

(a) “Entity Relationship Diagram” : It refers to “a graphical model of the information system that depicts the relationships among system entities” (Tilley, 2019, Glossary). An Entity-Relationship Diagram (ERD) is a graphical depiction of the relationships between different entities in a database or information system. Entities represent real-world objects or concepts, attributes describe entity properties, and relationships illustrate entity relationships. ERDs help with database design and data structure knowledge.

(b) "Network topology" : The structure or arrangement of devices, nodes, and communication links in a computer network is referred to as network topology. It specifies how devices are linked, the pathways data takes to move between them, and the overall network topology. Topologies that are often used include star, bus, ring, mesh, and hybrid arrangements. "The way a network is configured. LAN and WAN networks typically are arranged in one of four common patterns: hierarchical, bus, star, and ring" (Tilley, 2019, Glossary).

(c) "User interface" : A user interface is the means by which users interact with a computer system or software application. It includes visual elements such as menus, buttons, forms, and graphical displays, as well as interactive components like input fields and controls. The UI facilitates user input, navigation, and communication with the system. It "includes screens, commands, controls, and features that enable users to interact more effectively with an application" (Tilley, 2019, Glossary).

4. "Systems Implementation"

(a) "Acceptance Test" : An acceptance test is a formal testing procedure used to determine if a system or software application fulfills the acceptance criteria. It entails running test scenarios, which are frequently based on real-world use cases, to ensure that the system works as intended and corresponds with user needs and requirements. When acceptance testing is completed successfully, the system is ready for deployment. "Testing involves the entire information system, including all typical processing situations. During an acceptance test, users enter data, including samples of actual operating conditions. All processing options and outputs are verified by users and the IT project development team to ensure that the system functions correctly. Sometimes known as system test" (Tilley, 2019, Glossary).

(b) "Code Reviews" : "A review of a project team member's work by other members of the tean to spot logic errors. Generally, systems analysts review the work of other programmers, as a form of peer review. Structures walk-throughs should take place throughout the SDLC and are called requirements

reviews, design reviews, code reviews, or testing reviews, depending on the phase in which they occur. Also known as a structured walk-through" (Tilley, 2019, Glossary). Code reviews are systematic inspections of code performed by other developers in order to detect problems, give input, and assure code quality. This procedure aids in the detection of defects, the improvement of code readability, the sharing of information, and the enforcement of coding standards. Code reviews help to create software that is dependable, maintainable, and efficient.

(c) "Test Plan" : A test plan is a detailed document that specifies the strategy and specifics of a software project's testing operations. It contains information on the scope of the testing, objectives, methodology, resources, timeframes, and deliverables. The test plan directs the testing team in carrying out different testing operations in order to guarantee that the software fulfills quality and functional criteria. "A plan designed by a systems analyst that includes test steps and test data for integration testing and system testing" (Tilley, 2019, Glossary).

5. "Systems Support"

(a) "Baseline" : "A formal reference point that measures system characteristics at a specific time. System analysts use baselines as yardsticks to document features and performance during the systems development process" (Tilley, 2019, Glossary). A baseline is a specified and stable condition that serves as the beginning point for change comparison, assessment, and monitoring. In software development, it may refer to a stable version of a software system from which future updates or additions are made. A baseline is a collection of agreed-upon project elements (such as scope, time, and cost) against which project performance is compared and monitored in project management.

(b) "Configuration Management" : The practice of methodically managing and regulating changes to software, documentation, and other objects inside a project or system is known as configuration management. It entails keeping track of versions, guaranteeing consistency, and ensuring that all

components adhere to set standards and specifications. Configuration management aids in the prevention of mistakes, the streamlining of development, and the improvement of team cooperation. “A process of controlling changes in system requirements during the development phases of the SDLC. CM also is an important tool for managing system changes and costs after a system becomes operational” (Tilley, 2019, Glossary).

(c) “User Training package” : A user training package is a collection of materials, resources, and activities created to educate users about the functionalities, operations, and best practices related to a software application, system, or product. It includes user guides, tutorials, videos, workshops, and any other materials that facilitate the learning process and help users become proficient in utilizing the technology effectively. “The main objective of a user training package is to show users how the system can help them perform their jobs” (Tilley, 2019, Glossary).

References

Tilley, S. (2019). Systems analysis and design (12th ed)., Boston, MA: Cengage Learning.