Computer Science Bible

IB.CS-HL 1 & 2

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https://github.com/bishan-batel/ibcs-bible

Research done by the IB Moderation bullshit team

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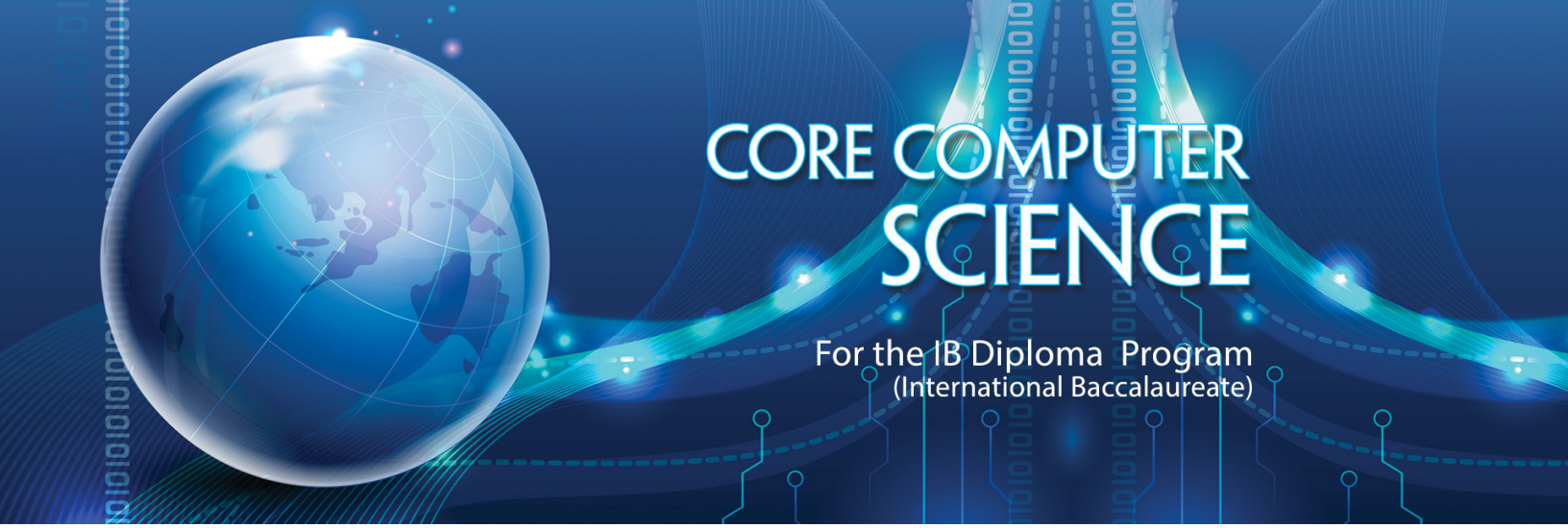

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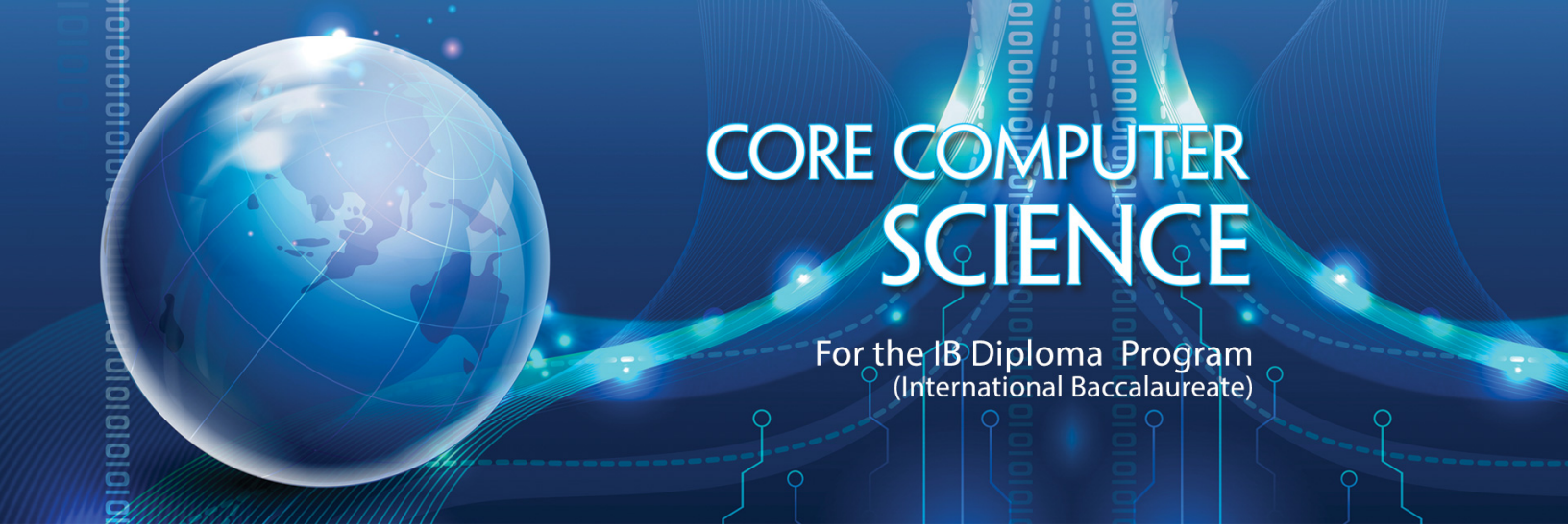


1. Systems

1.1 Properties of Systems

Definition 1.1.1 — System. A combination of hardware and software that interact regularly to perform all aspects of managing and processing information, especially within a large organization.

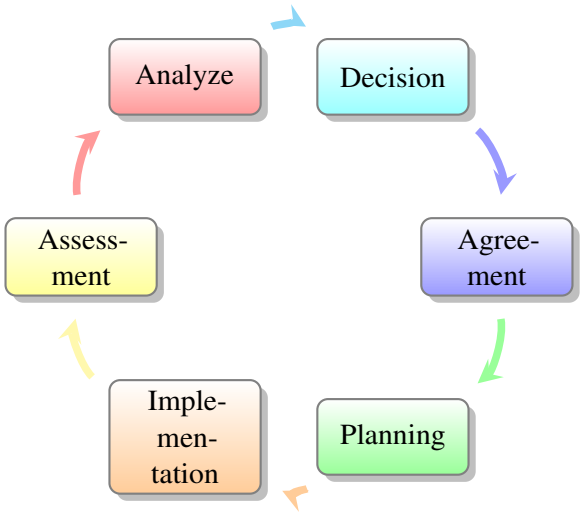
1.1.1 Reasons for a new system

- To replace an existing system
- To improve an existing system
- To provide a new service
- To provide a new product
- To provide a new business

1.2 Change Management

Definition 1.2.1 — Change Management. The process of handling change with the least amount of disruption to the organization.

1.2.1 Stages of Change Management

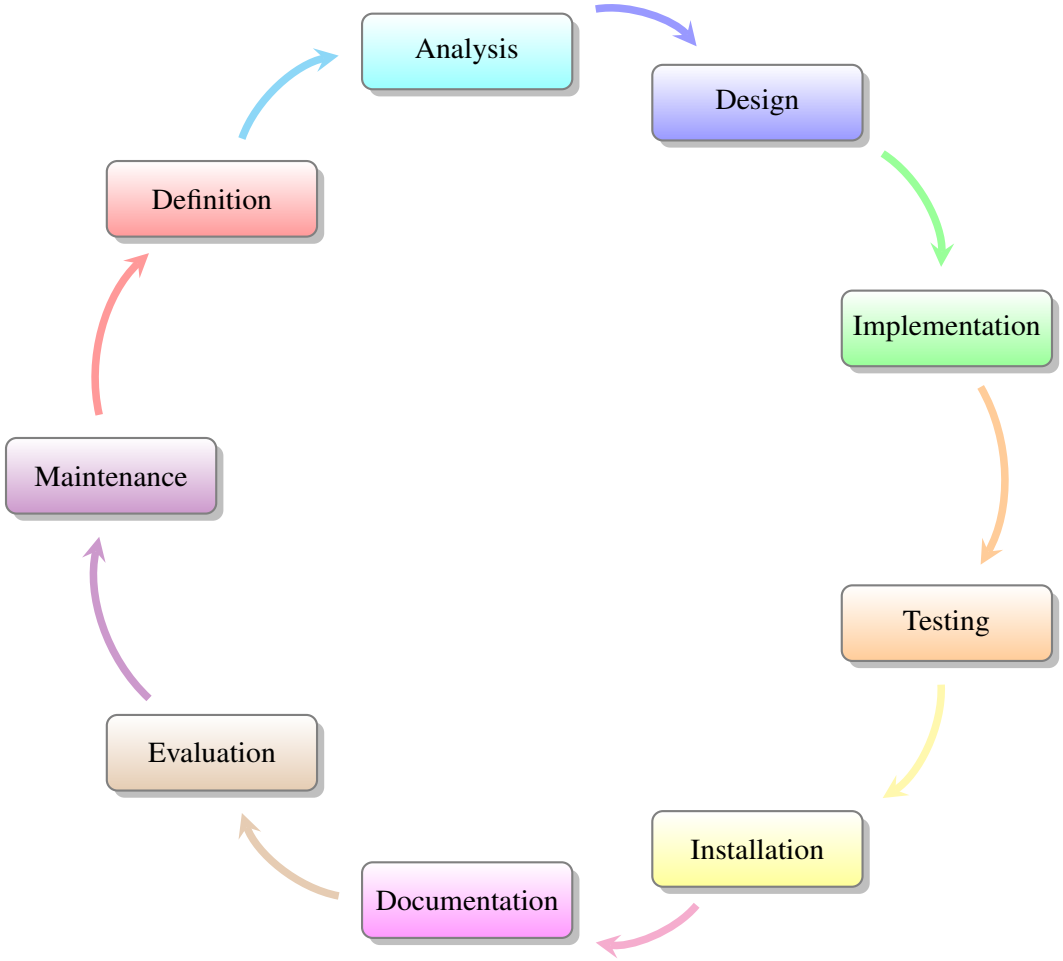


1.2.2 Considerations in Change Management

- Staff Training
- Data migration
- Switching over
- Recovery Software in case of a Disaster
- Help Systems
- Business Process

1.2.3 System Life Cycle

Definition 1.2.2 — System Life Cycle. The stages that the development of a new system goes through.



1.3 Stakeholders

Definition 1.3.1 — Stakeholder. Inidividuals who stand to gain or lose something from the success or failure of an existing or proposed system.

▪ **Example 1.1** Types of Stakeholders:

- System Owners
- System Users
- Project Managers
- External Service Provider
- Investors

▪

Definition 1.3.2 — End User. The person or group who will use the product.

1.3.1 Role of End Users

- In planning stage you are able to identify problems
- Create simpler methods/systems

- User involvement leads to more reliable ways to organize features
- Enables system developers to know and understand user's lexicon, so developers can communicate using the same language
- Eliminates misunderstandings and reduces errors
- It can gain user agreement

Definition 1.3.3 — Consequences of not involving end users in the design process. User frustration when using system, developer could create useless solution, company losses productivity.

■ **Example 1.2 — Roles end users can have during the process of creating a *new* system.**

- Development (end users can tell developer what they want the progarm to do
- Can Help in the design process by telling the developer what they want to see in the program
- Testing (beta or user acceptance testing)

■

1.3.2 Methods of Obtaining Requirements from Stakeholders

- Interviews
- Direct Observation
- Surveys

1.4 Range of Usability Problems with commonly used digital devices

1.4.1 Usability

Definition 1.4.1 — Effectiveness.

Definition 1.4.2 — Effiency.

Definition 1.4.3 — Ergonomics. In usability of system design, ergonomics is the qualities of system design that makes it safe and comfortable to use.

Some examples of ergonomics could be the size of the keyboard, the size of the screen, the resolution of the screen, the size of the mouse, the size of the buttons,

Definition 1.4.4 — Accessibility.

1.4.2 Digital Devices