Agile Development

Topic 8:

Iterative Development and Prototyping

Topic Coverage

This topic will cover:

- Iterative Development
- Prototyping
- Evolutionary Development Strategies

DSDM - 5 Key Techniques

MoSCoW Prioritisation

Modelling

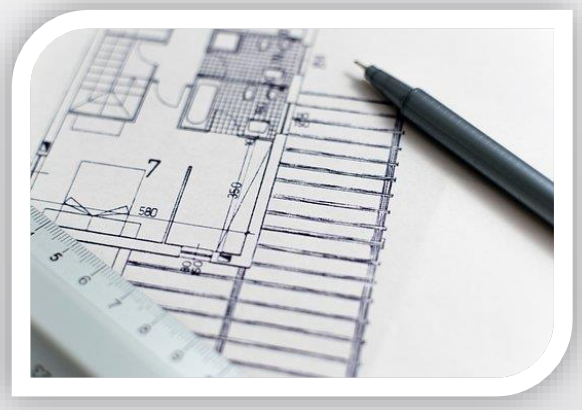
Facilitated Workshops

Iterative Development

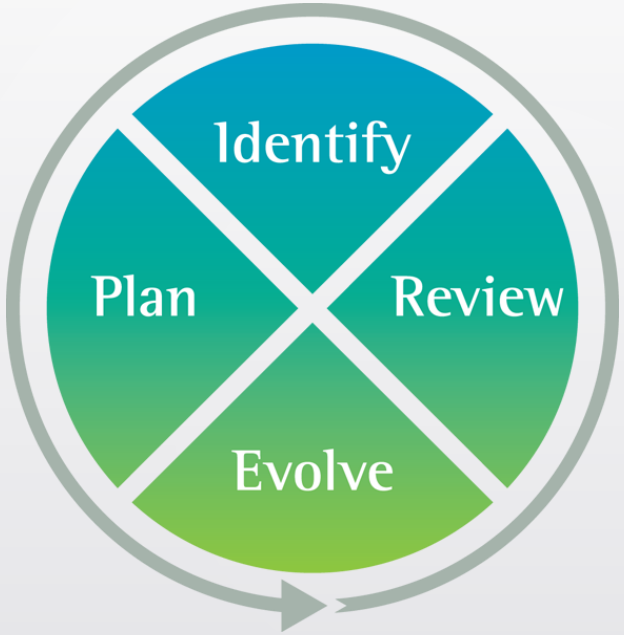
Timeboxing

Iterative Development

This is a key technique to evolve from a high level idea to a delivered product incrementally

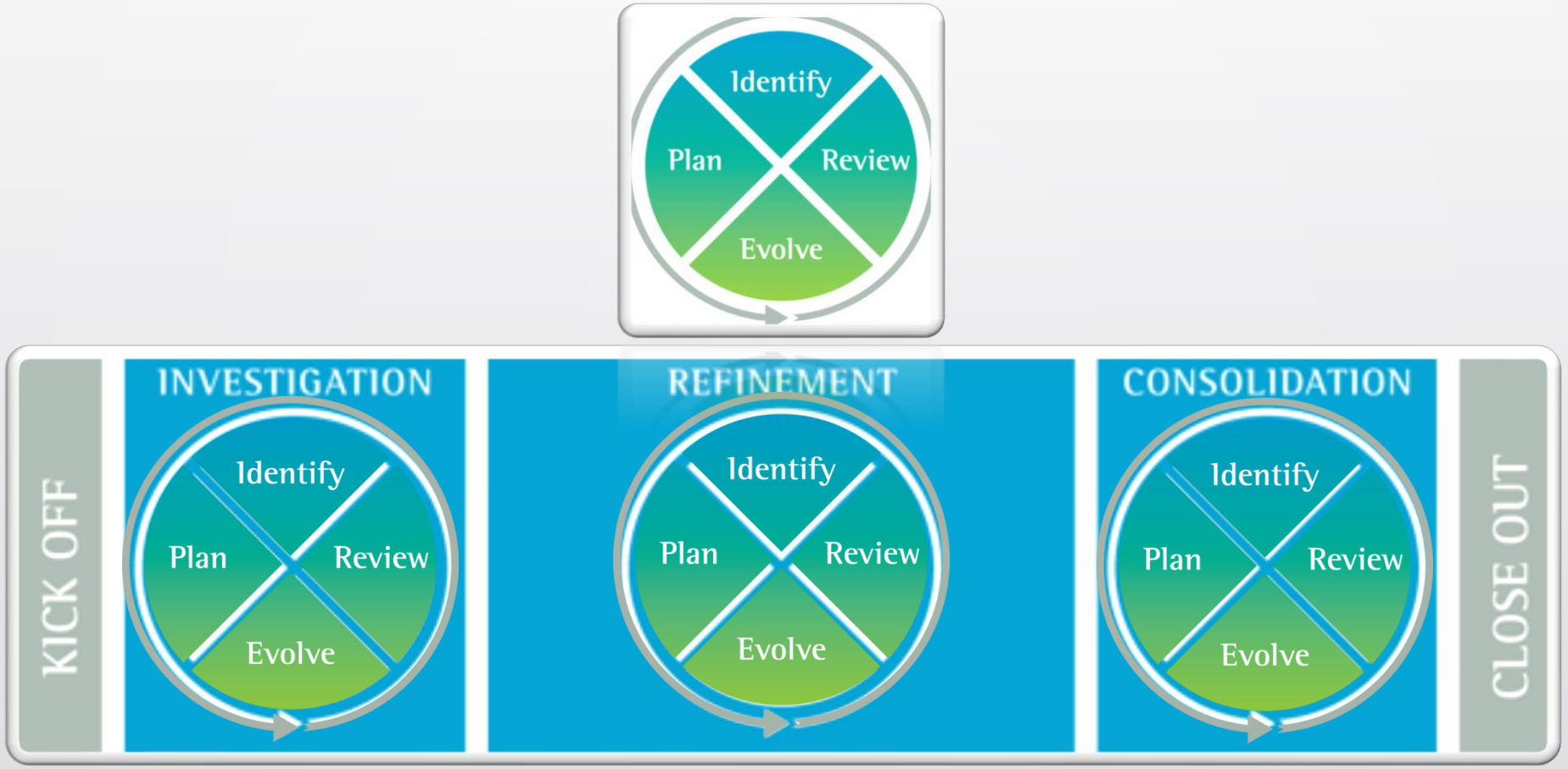


The Iterative Development Cycle



Iterative development cycles are typically short – days or even hours!

Iterative Development in a Timebox



Perspectives for Iterative Development

- Points to consider include:
  - ✓ **Functional** – the ‘what?’ not ‘how?’ elements of a project
  - ✓ **Usability** – the users needs and the user interface
  - ✓ **Non-functional** – the ‘how well?’ elements of a project

What is a Prototype? – 1

- A prototype is:
  - An incomplete part of the total solution;
  - Used to learn more about what is required;
  - Evolutionary (evolving into the final solution) or disposable;
  - Evolutionary prototyping is the means of developing the solution as a set of increments, and learning by doing

What is a Prototype? – 2

- The intent is to build something visible, valuable and working as soon as possible.

A Few Ideas for Prototyping

Screen-based, animated

Paper-based “low-tech”

Role-play

Experimental

Video

Group Exercise – What is a Requirement?

- I need four volunteers…

Iterative Development - Functional Perspective

Points to consider:

- Focuses on functionality;
- Developer ***demonstrates*** functional business requirements;
- This checks developer's understanding of user requirements;
- Confirms 'building the right solution'

Iterative Development - Usability Perspective

Points to consider:

- Focuses on user interface
- Illustrates solution ease of use
- User tests ease of use of the solution

Iterative Development – Non-Functional Perspective

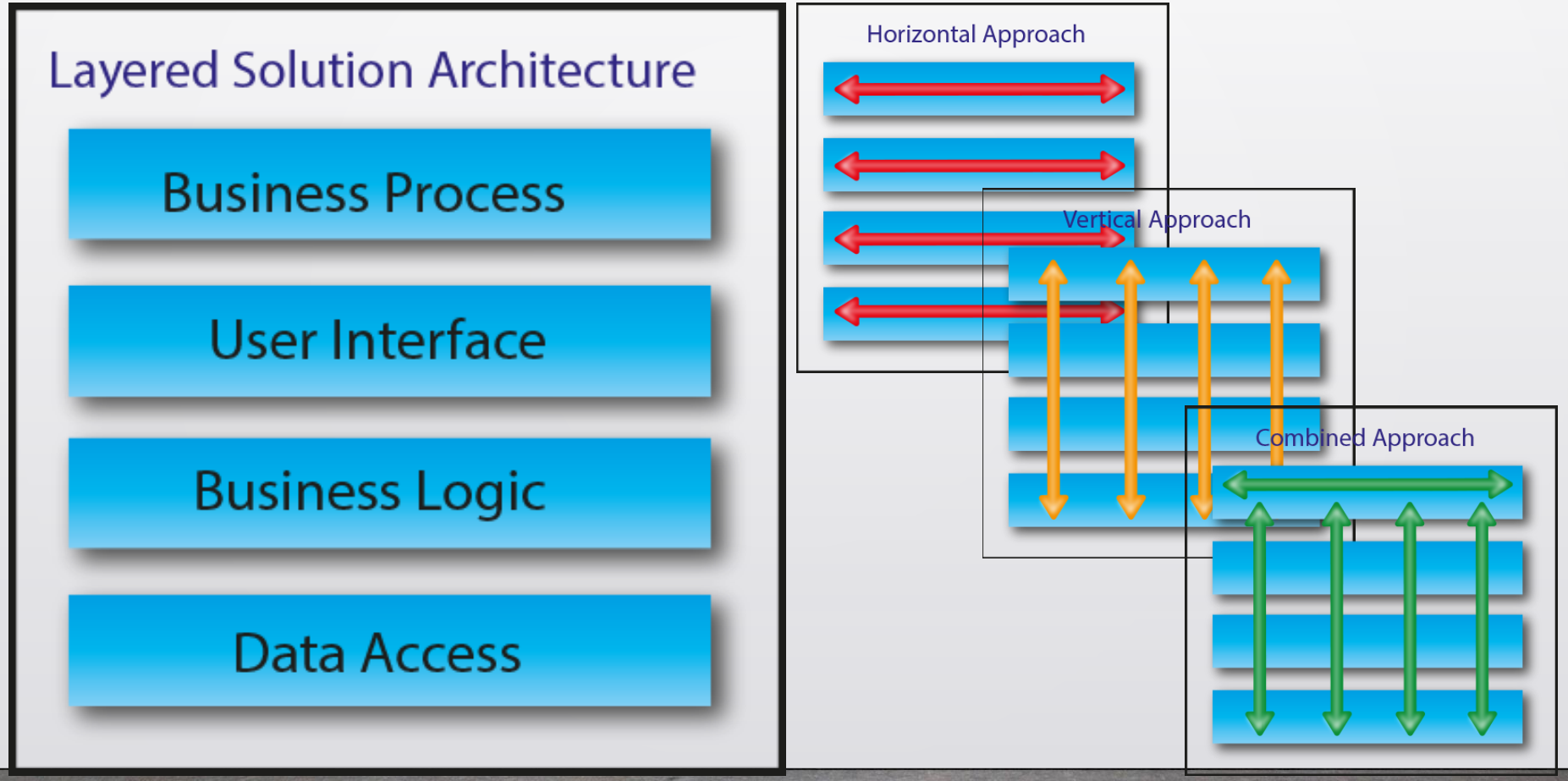
- It focuses on non-functional aspects (response time, security etc.) A solution developer tests that the solution meets non-functional requirements.

Capability/Technique Prototype

It focuses on technical design options and functionality. Here, a solution developer tests design approach and/or development tool.

This is often an Architectural Spike or Proof of Concept.

Evolutionary Development Strategies – Vertical, Horizontal & Combined Approaches



Summary

- Here, we have considered the issues of iterative development, prototyping and evolutionary development strategies. Below is an outline of each term:

- Iterative Development – the process of identifying; planning; evolving and reviewing the solution. Iterative development allows for faster development and is one of the 5 key techniques used in Agile development.

Summary – 2

- Prototyping – tools to demonstrate elements of the solution to allow for iterative development in-line with the users needs.
- Evolutionary Development Strategies – the way in which iterative development is managed to ensure each layer of the solution architecture is addressed during iterative development.

More reading Resources

- ITERATIVE DEVELOPMENT, Agile business.org

https://www.agilebusiness.org/page/ProjectFramework_11_IterativeDevelopment(Last accessed 1st November 2020)

End of Topic ☺

Any Question?