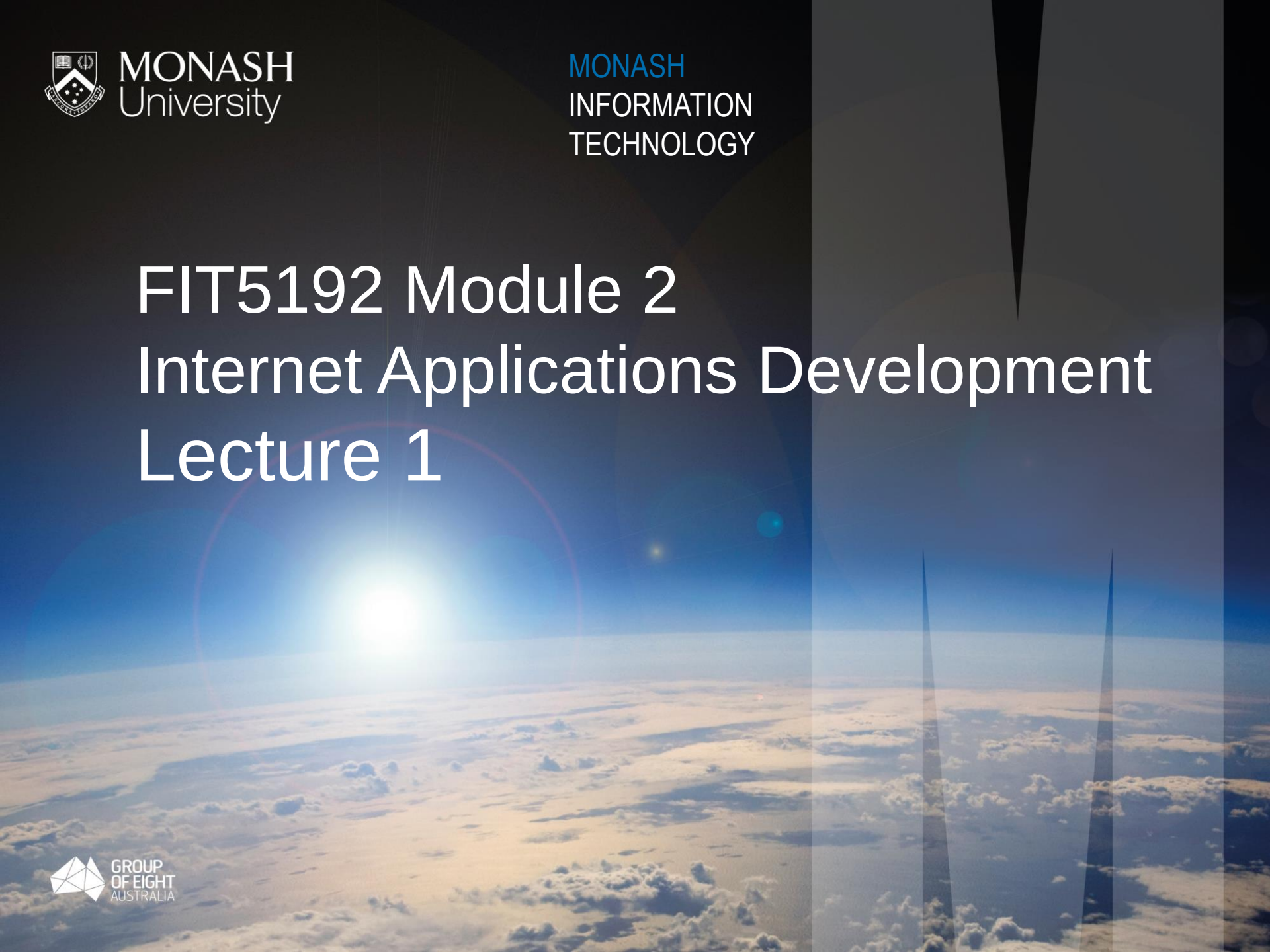
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TECHNOLOGY
FIT5192 Module 2
Internet Applications Development
Lecture 1
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Learning Outcomes for the unit

From the Handbook: http://www.monash.edu.au/pubs/handbooks/units/FIT5192.html

At the completion of this unit students will be able to:

1. demonstrate the impact of the history of web applications development on current web-technology;
2. design, construct and publish web-database applications;
3. analyse and critique the key technological issues confronting developers building web-database applications;
4. test the key features of programming languages which are commonly used for developing web-database application;
5. assess the MVC design pattern and construct a web-database application using the MVC design pattern;
6. apply, analyse and critique a professional approach towards the development of web-database applications.

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Lecture Overview

1. Introduction
2. Internet Application Development
3. Usability
4. Website Design
5. Create a Web Site in VS2015/2017
6. Install IIS Server

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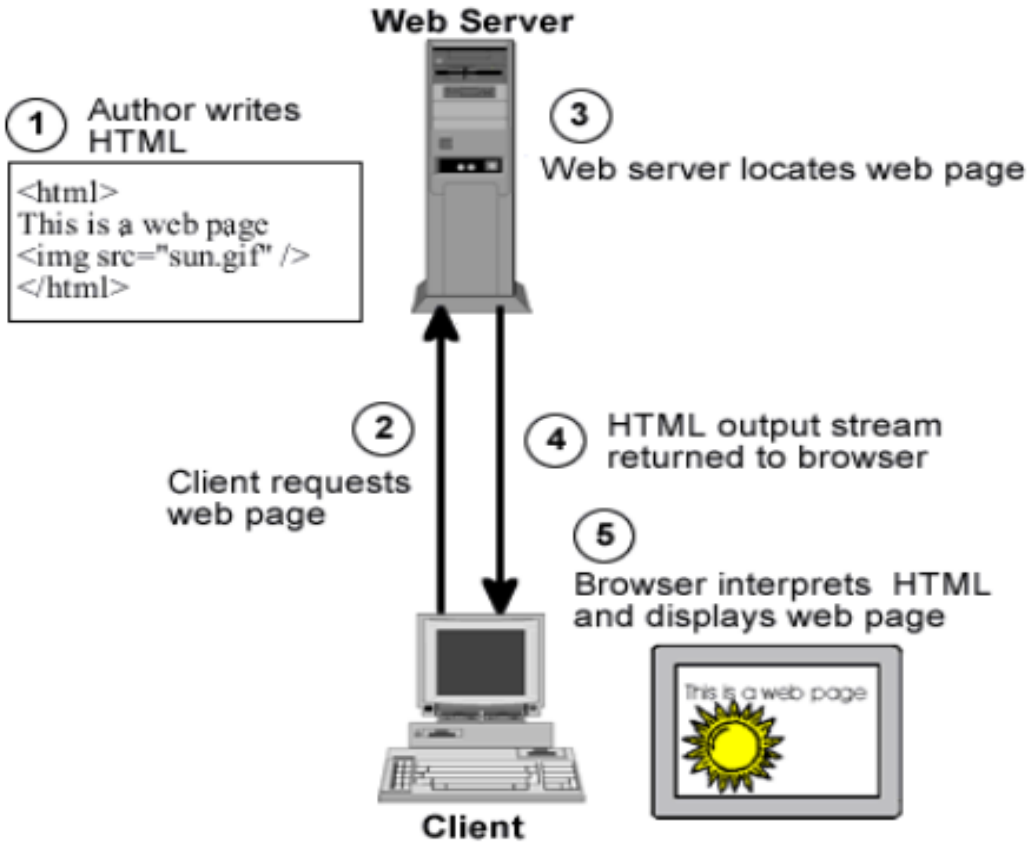
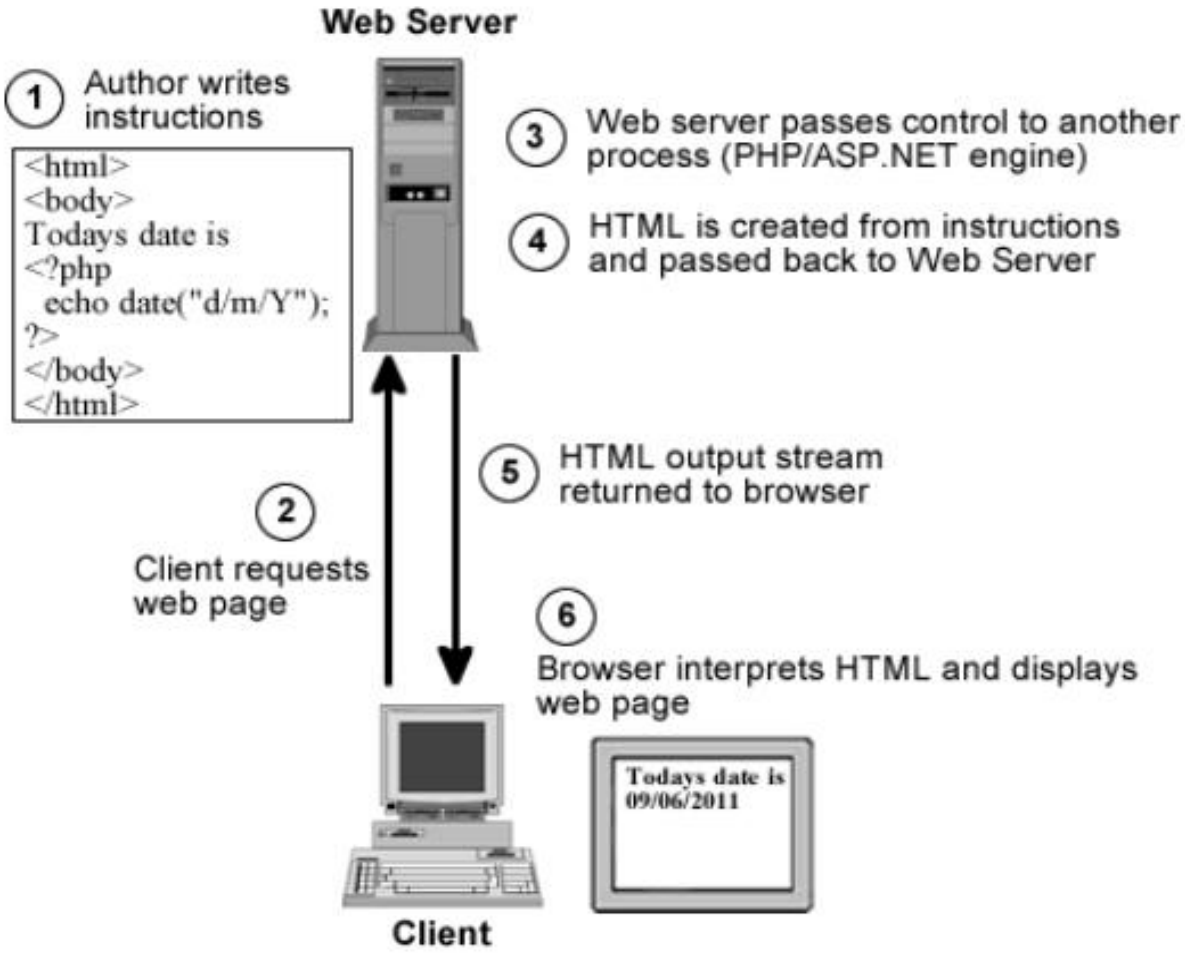
- HTML: Application Lifecycle



Background cont.



What are some of the technologies used in Internet Applications Development

What are some of the programming languages?

What are some of the Markup technologies?

What are some of the protocols used?

Where are the various components stored and executed (run)?

This module focuses on:

- ASP.NET using C#
- ASP has progressed through the years, this unit will use:
  - Web Form based ASP.NET and
  - MVC based ASP.NET
- We will generally not be using web pages with classic ASP
- HTML and CSS will be used when required (see background information)
- JavaScript will be used for some components later in the unit

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Introduction

- Internet Application Development
  - Planning
  - System Development Life-cycle
  - Database design
- Usability
- Website design
  - Colours
  - Typography
  - Forms

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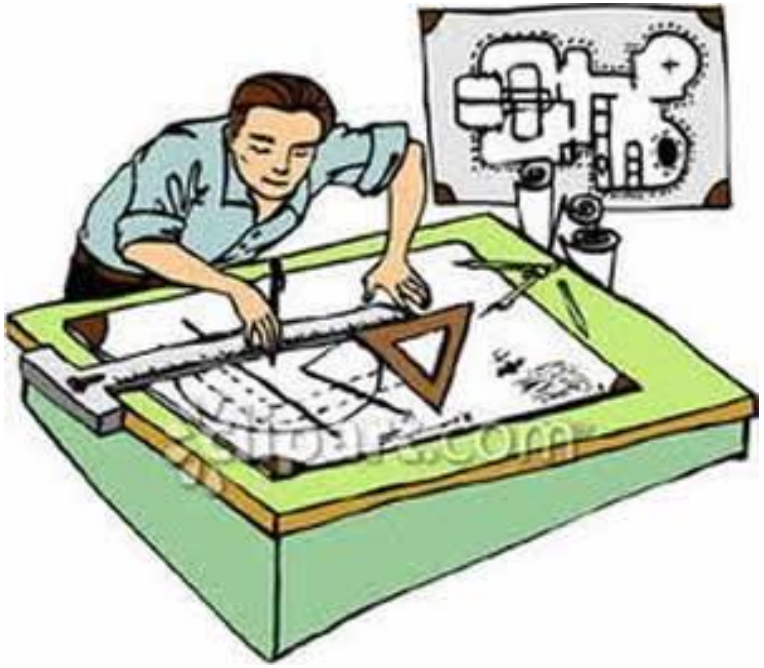
Where do we start?



Need to avoid problems

IBM's “rule of ten's”

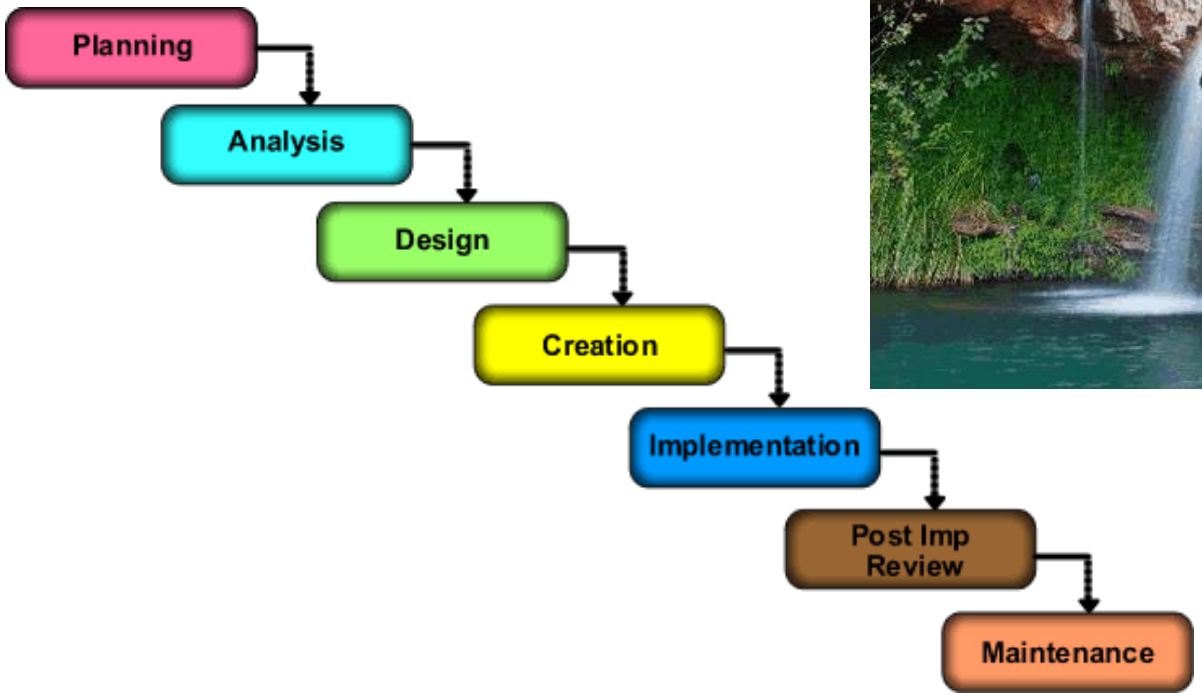
- What is the rule of tens ? Topic 2.1 part 2

Planning

Where do we start

Development Life-cycle

- Various methodologies are used in industry
  - e.g waterfall methodology



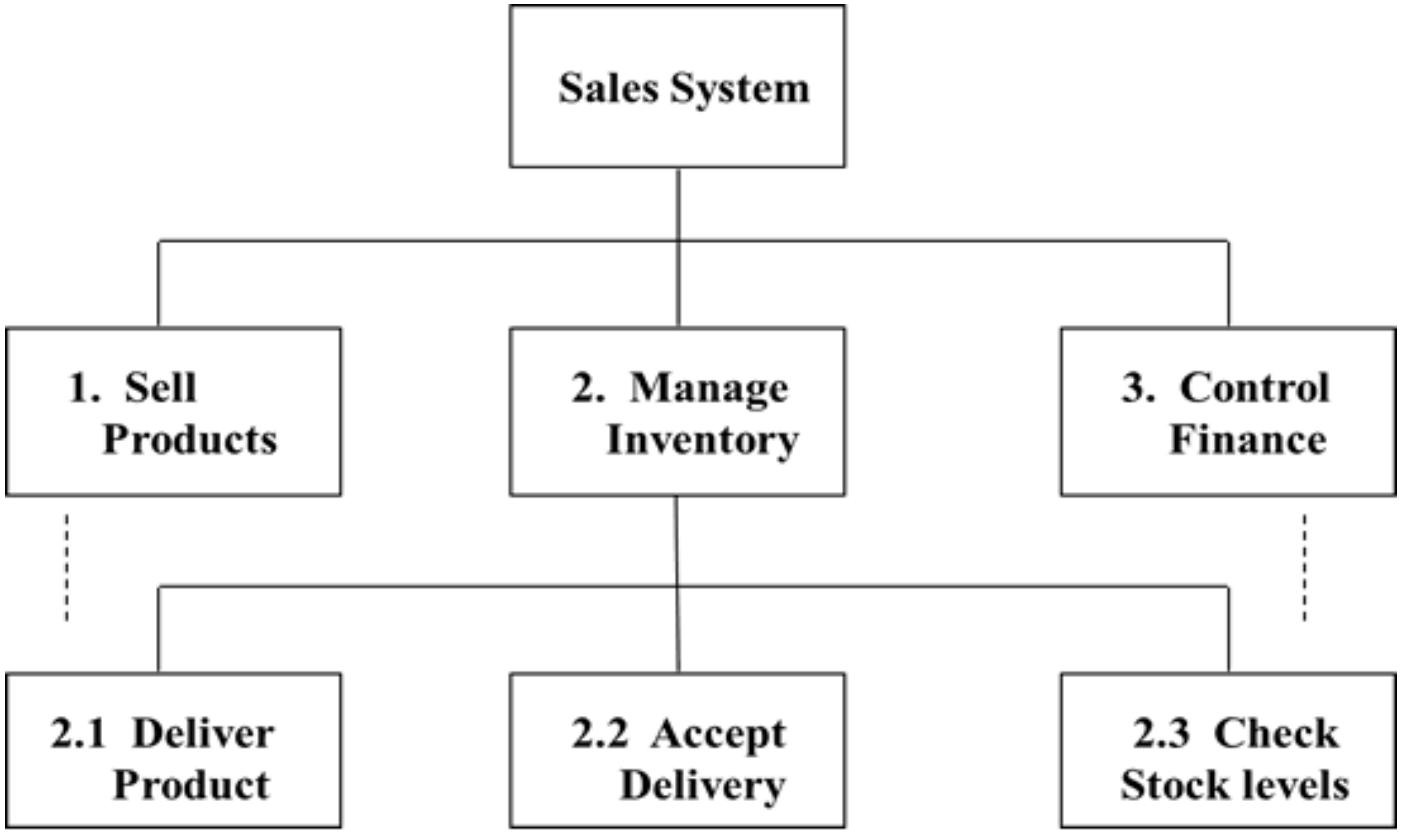
Agile Methodologies

Development Methodology

- Proposed development evaluation
  - Why is it important to evaluate a proposal?
- Functional decomposition
  - Specification of a project
- Prototyping
  - Demonstrating project

Functional decomposition

- Detailed specification of application



- Often more detail is added at each level of decomposition

Prototyping

Prototypes are mock ups. They are not the final system.

- Low fidelity
- Medium fidelity
- High fidelity

Other tools

User Stories (Use Scenario)

Process Flow Diagrams

Activity Diagrams

and UML

but we will not cover them in this unit.

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Database Design

Overview

- Entities
- Attributes
- Normalisation
- Additional Items

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Database Entities

Identify Data that is important to the business

“Who and what" do we need to store data

and "how and when" will they need to access it

Entities and relation identified

- One-to-many
- Many-to-many
- One-to-one

Database Attributes

Characteristics of entities

How this data will become information?

- … Use full names in one field, or first and second names
- …
- What other decisions will you make?

Database Normalisation

- Briefly:

  1NF - Identify PK and repeating groups

  2NF - Remove partial dependencies (ensure non key attributes are identified by all parts of a composite key)

  3NF - remove transitive dependencies (ensure all non key attributes are identified by key attributes)

Database:- Example

Midvale School for the Gifted Sportsman

1 Dim Drive

Genius Grove

Phone: (03) 342 5619

Mobile: 0418 342 678

ACADEMIC RECORD

Student: Billy Bunter
ID: 89785634
Address: 1 Bulemic Boulevard, Scoffsville 3122
Phone: 6321 7982

Teaching Mentor: Steven Strict
Contact: 9345 5555

Year	Semester	Subject	Description	Mark	Grade
2012	1	EAT101	Pie Eating	74	D
2012	1	PE102	Physical Education	49	NP
2012	1	COMP101	Introduction to Computer Studies	21	N
2012	2	ALE105	Introduction to Beer Swilling	82	HD
2012	2	SNAG101	Studies into the Sensitive New Age	14	N
2013	1	COMP101	Introduction to Computer Studies	50	P
2013	1	HECO211	Home Economics	92	HD
2013	2	SNAG101	Studies into the Sensitive New Age	18	N
2013	2	PSY203	Introduction to Psychology	35	N
2014	1	ARM234	Armchair Sports	85	HD
2014	1	SLA209	How to Heckle the Umpire	72	D

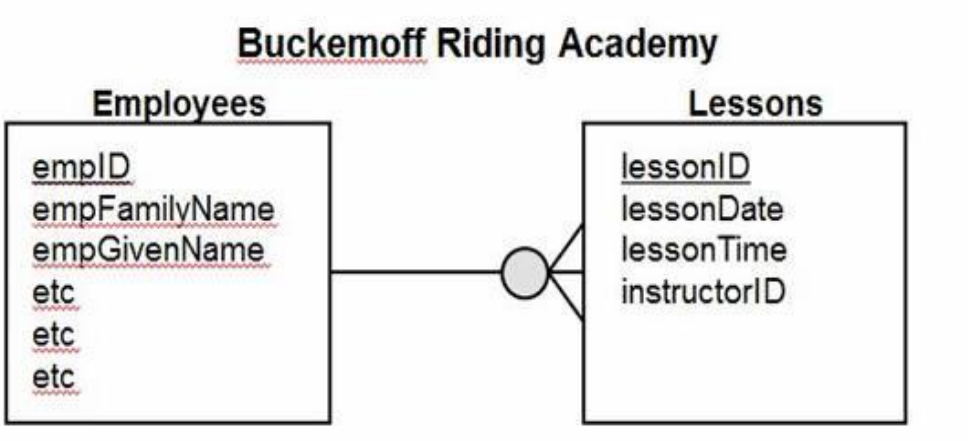
Database:- Additional Items

The obvious Primary Key (PK) is often the best one

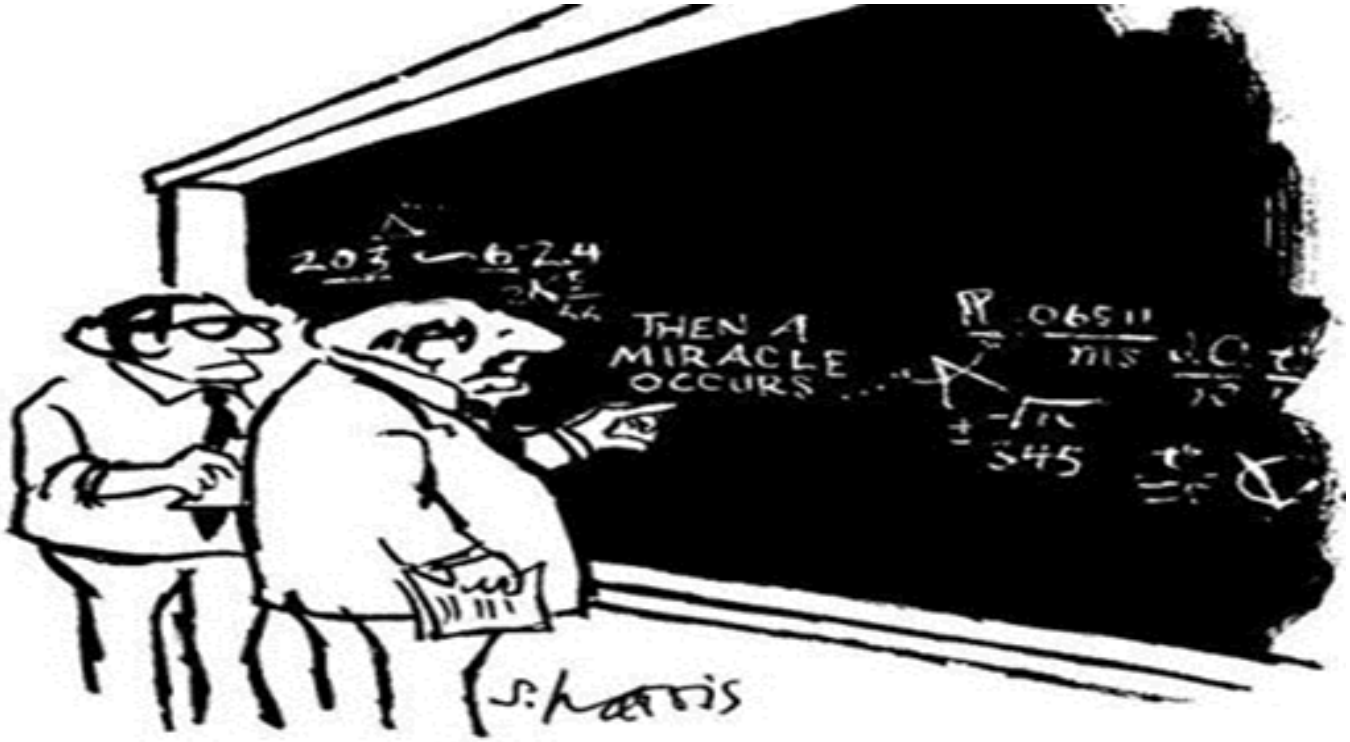
If there is no obvious PK , then the database can generate one

The PK doesn't need to reference the table (e.g. C0001 for customer ID)

Foreign Key names do not need to match in different tables



Use Meaningful Data and Document

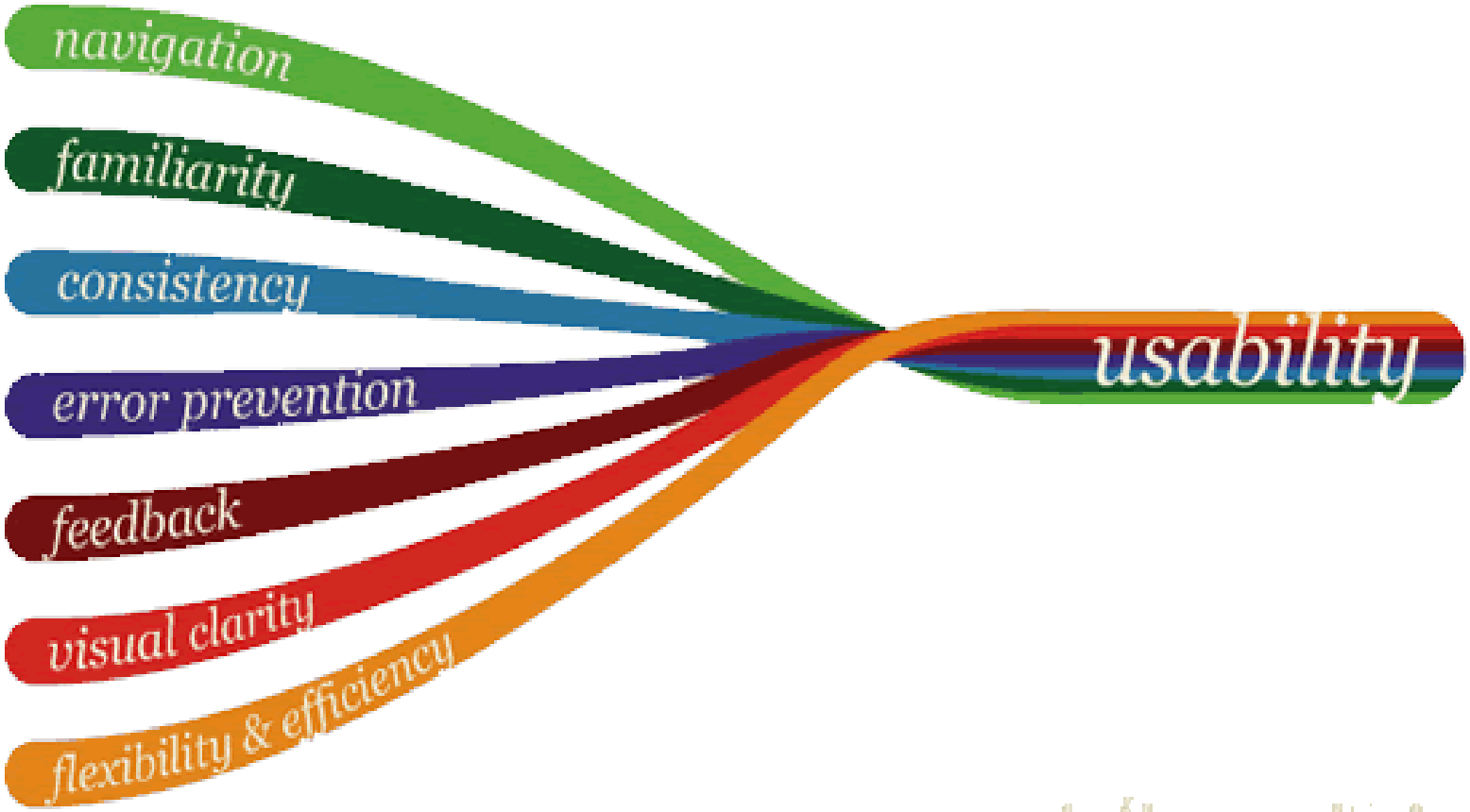


"I THINK YOU SHOULD BE MORE EXPLICIT HERE IN STEP TWO."

Usability

Usability must be given priority

Usability Guidelines (from Flow Bohl)



Usability - Flexibility and Efficiency

- All the other usability items focus of ease of use of an application
- For expert users,
  - the ability for the application to be flexible and efficient is also important,
  - however this can go against some of the constraints of the other usability guidelines

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Website Design

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Overview

Colour

Typography

Branding

Forms

Forms – Labels

Forms - Field Lengths

Forms - other stuff

Forms - Time to say Goodbye

Design - Conclusion.

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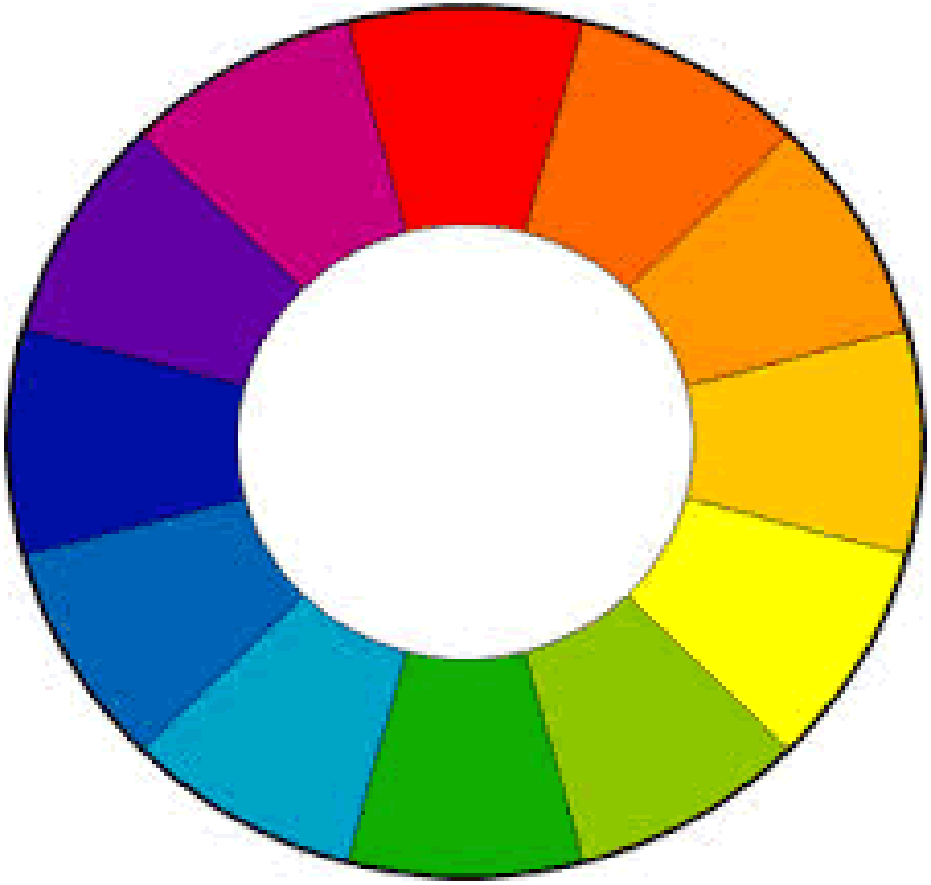
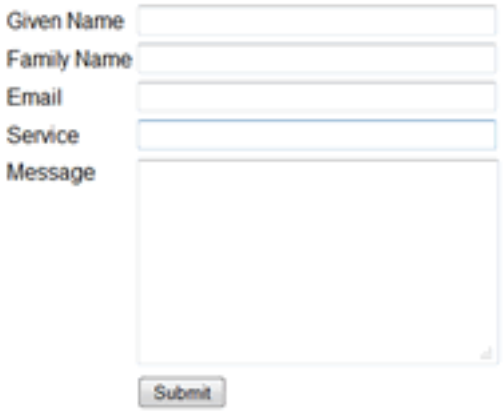
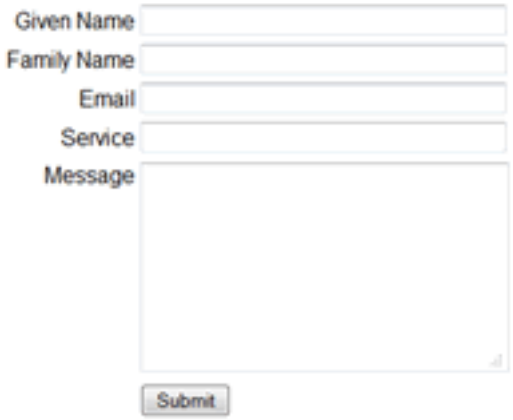
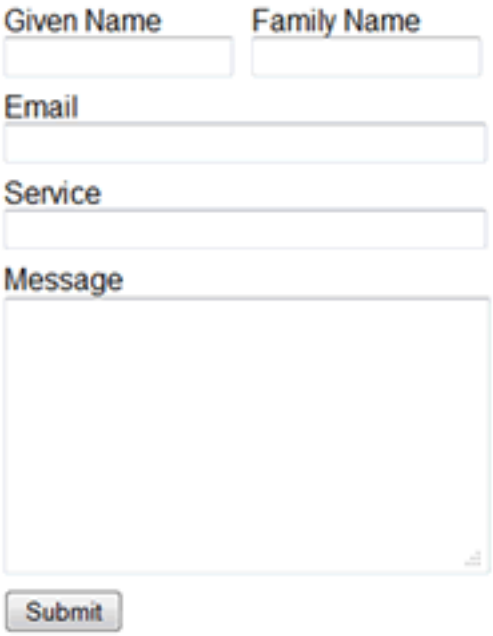
Colour



Forms- Labels

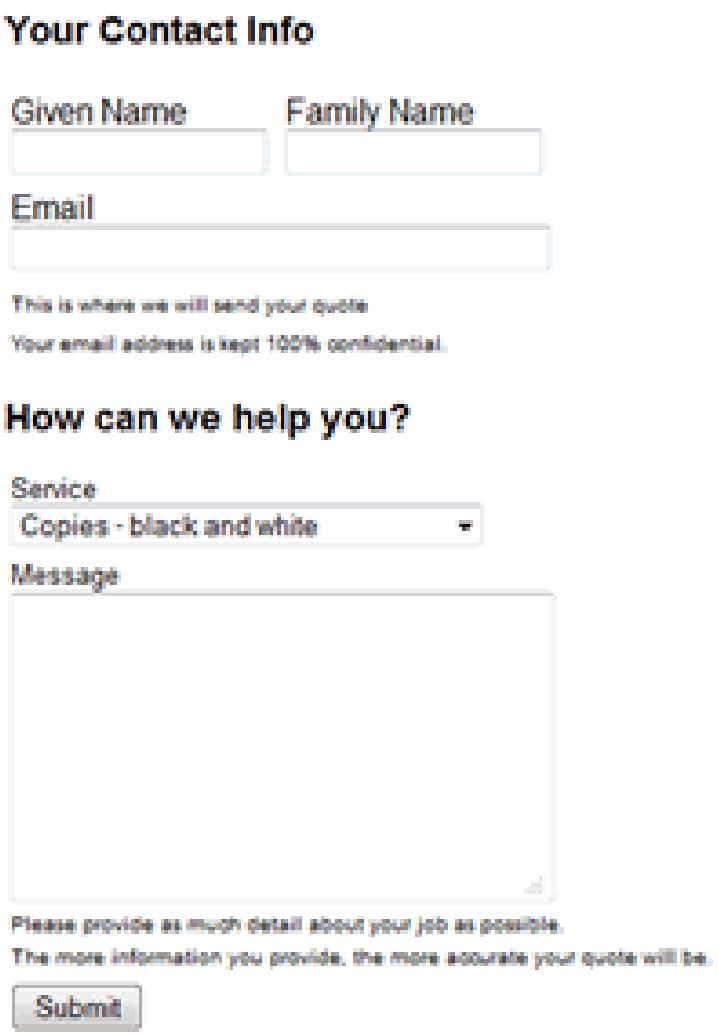




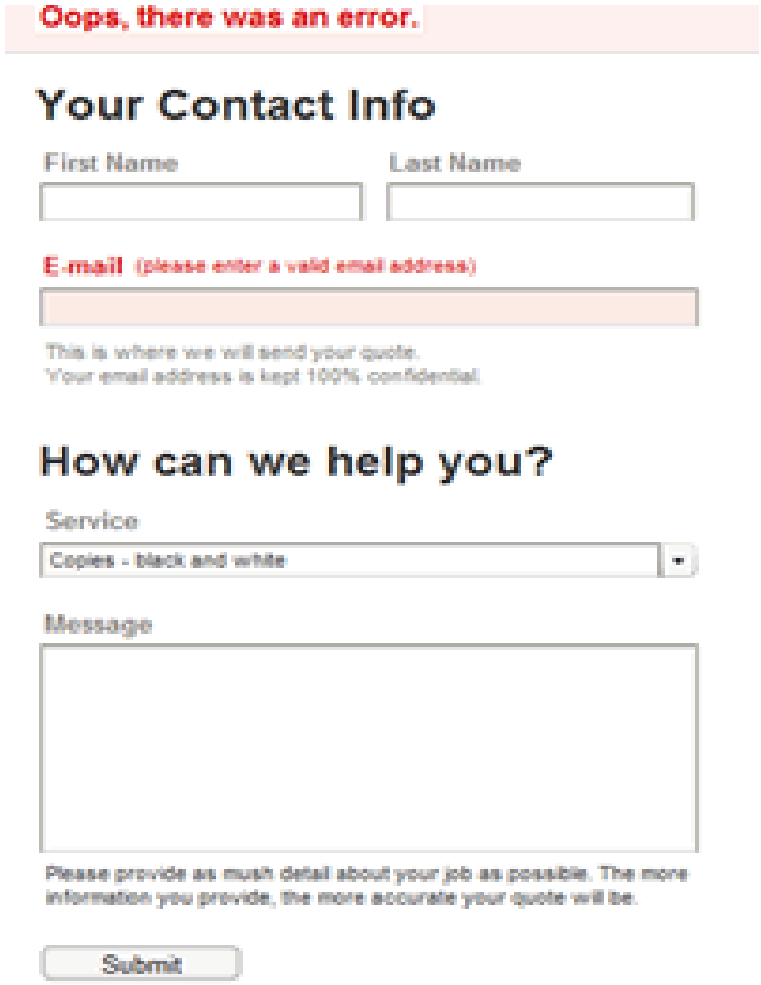


Forms- Field Lengths

Forms- grouping fields



Forms- error messages



Forms- Saying goodbye

When a process is complete, let the user know.

When a Form is submitted, give a message :-)

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Design Conclusion

- Purpose
- Usability
- Consistency
- Simplicity
- Search Engine Optimisation
- Contrast
- Alignment
- Proximity

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What you will do in the Studio

Complete Database design exercise

Read ahead ASP examples from topic 4 (for Tutorial 2) and run in Visual Studio 2015/2017

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Thanks and See you in the Studio!