

Lecture 2

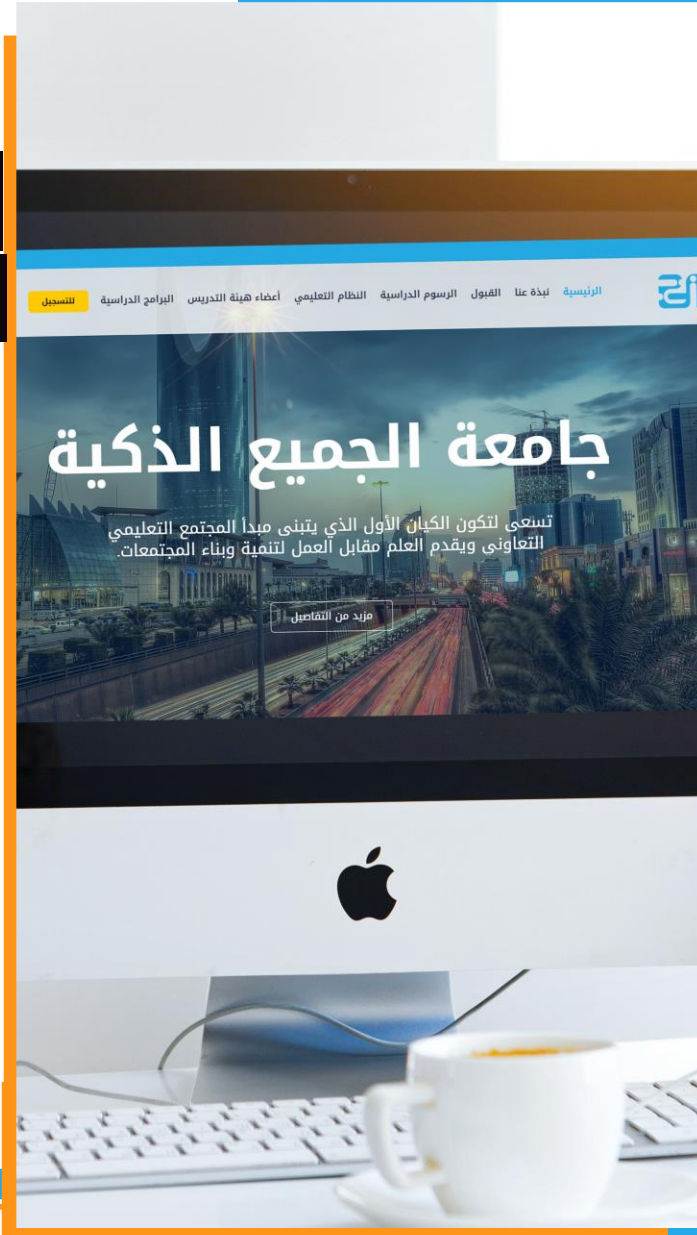


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Chapter 04

PROJECT SCOPE MANAGEMENT



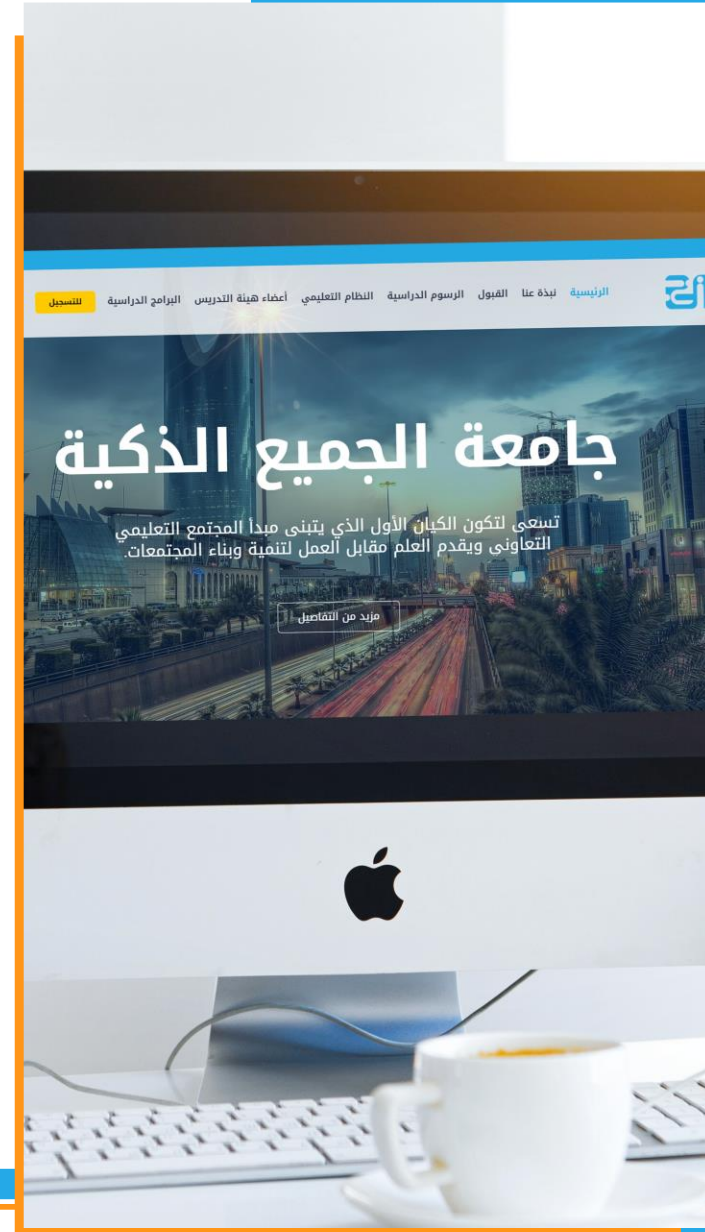
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KEY TERMS

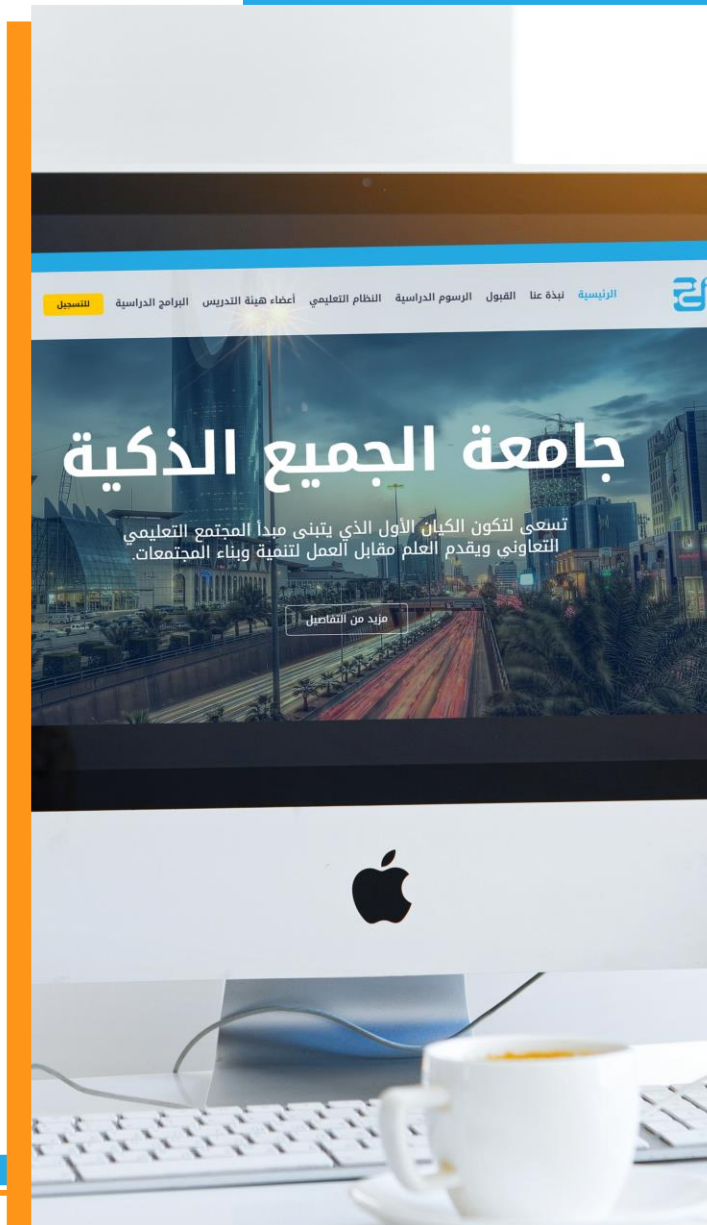
- ❑ Introduction to Project Scope
- ❑ Plan Scope Management
- ❑ Collect Requirements
- ❑ Define Scope
- ❑ Create WBS
- ❑ Control Scope
- ❑ Validate Scope



Chapter 04

Project Charter

- 1 Project purpose
- 2 Measurable project objectives
- 3 High-level requirements
- 4 High-level project description and deliverables
- 5 Overall project risk
- 6 Summary milestone schedule
- 7 Project approval requirements
- 8 Preapproved financial resources;
- 9 Key Stakeholder list
- 10 Project exit criteria
- 11 Name and authority of the sponsor or other person(s) authorizing the project charter.
- 12 Assigned project manager, responsibility, and authority level



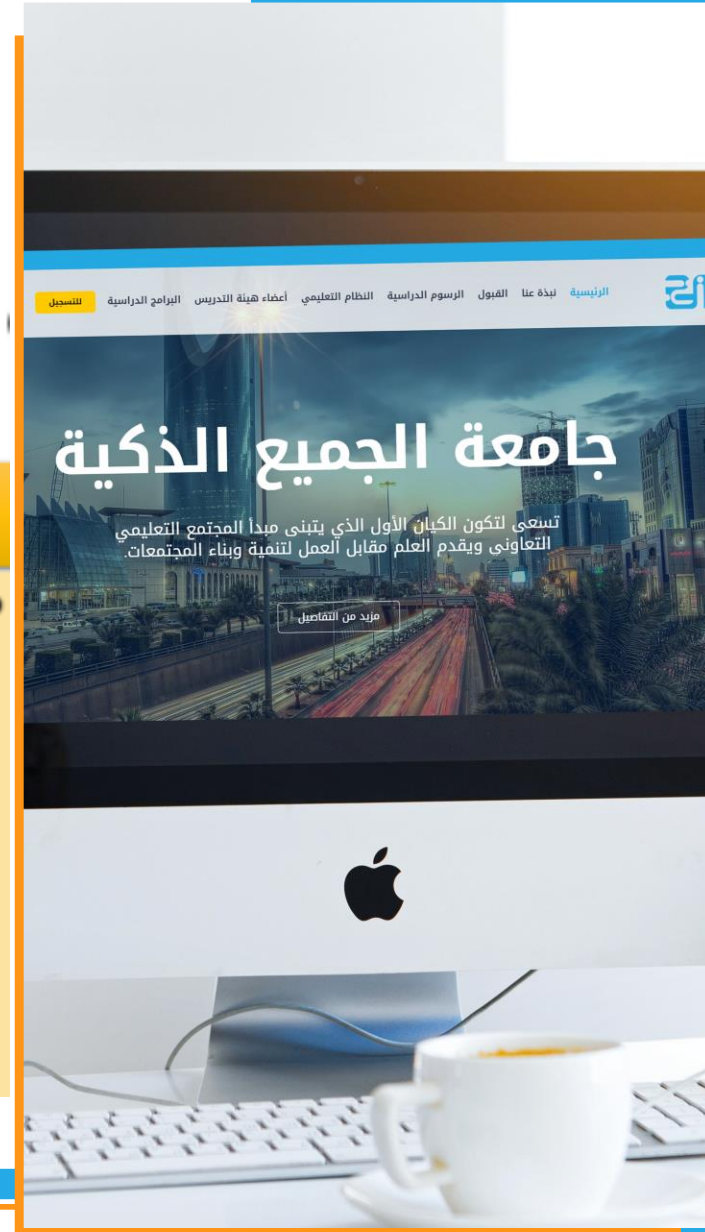
KEY CONCEPTS FOR PROJECT SCOPE MANAGEMENT

Product Scope

The features and functions that characterize a product, service, or result

project Scope

- **The work that needs to be accomplished to deliver a product, service, or result with the specified features and functions**



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Product Scope

نطاق المنتج.

السمات والوظائف التي يتميز بها منتج أو خدمة أو نتيجة

- The **features** and **functions** that characterize a product, service, or result

Ex: 30 floors tower & 1000 beds hospital

➤ Completion of the product scope is measured against the **product requirements**



Project Scope

نطاق المشروع.

- The **work performed** to deliver a product, service, or result with the specified features and functions.

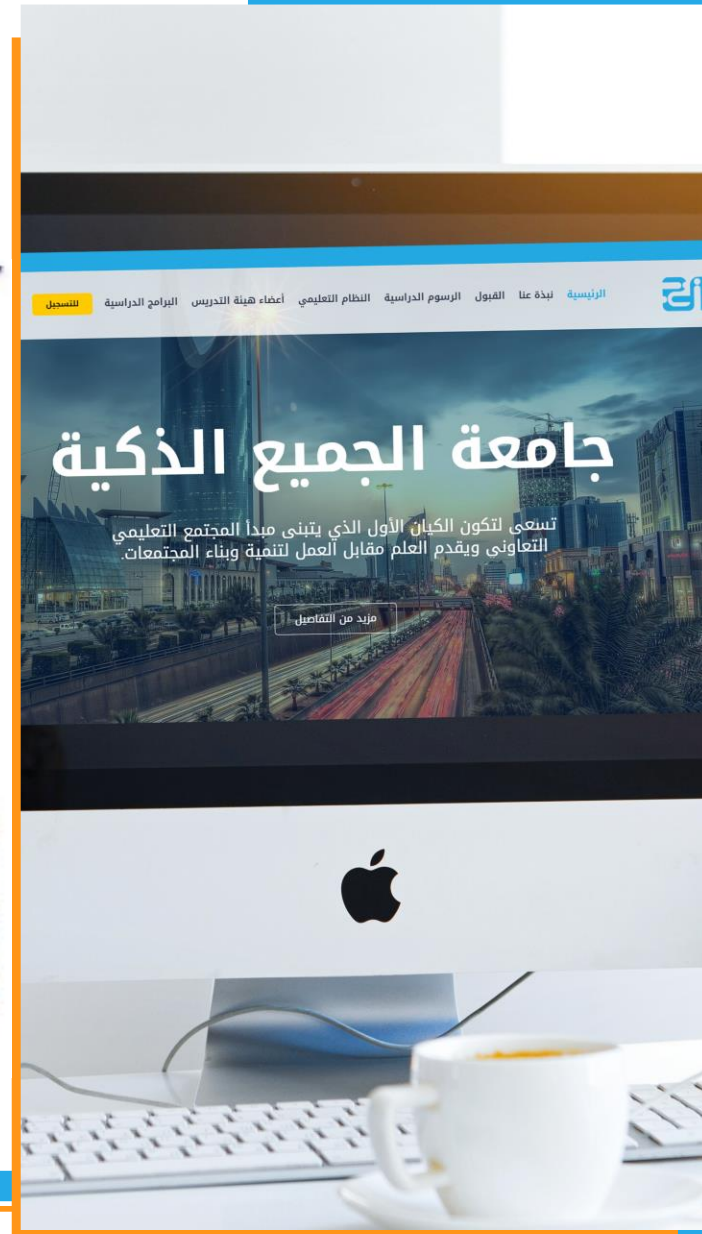
العمل الذي يُؤدى لتسليم منتج أو خدمة أو نتيجة تتوفر فيها السمات والوظائف المحددة

Ex:

Planning (PM Plan, Safety Plan, method statements... etc.)

Technical Efforts (Drawings, Material Submittals)

➤ Completion of the project scope is measured against the **project management plan**



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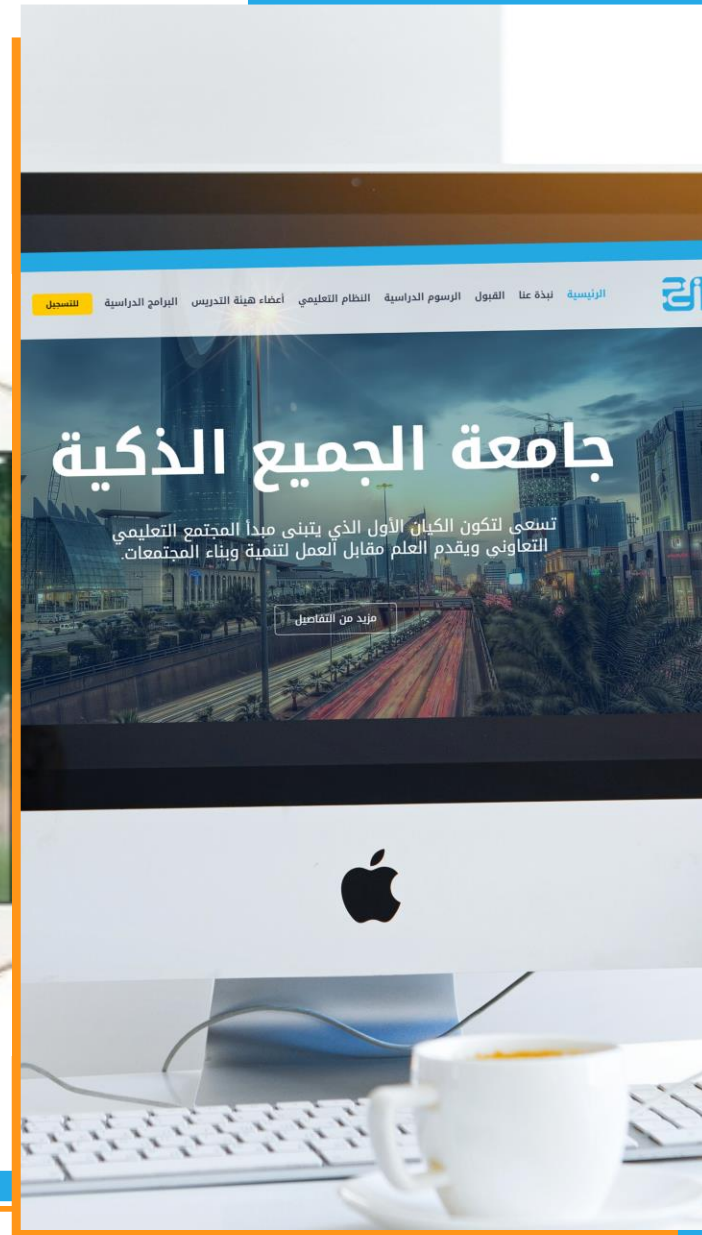
What is a Product?



Features and functions that characterize a product



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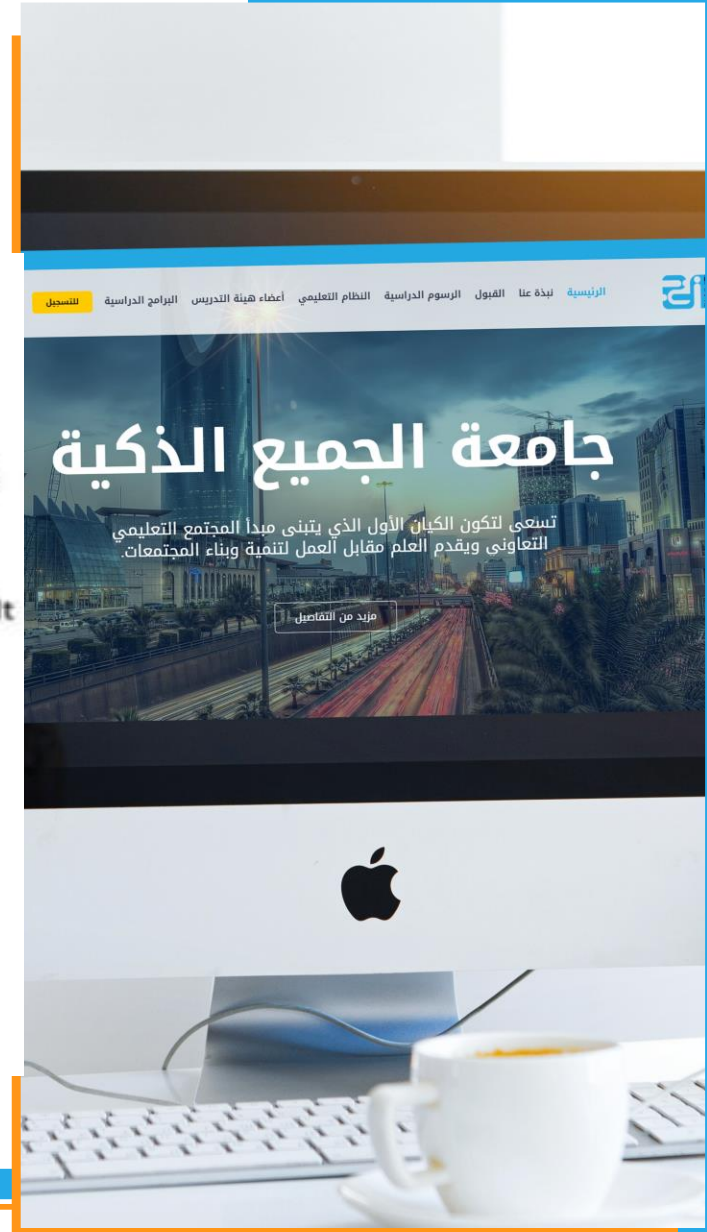


What is a Project Scope ?



The project scope is the work required to create the product. It also defines what is in the scope and whatnot, which helps you avoid scope creep.

According to the PMBOK Guide 6th edition, project scope is the work performed to deliver a product, service, or result with the specified features and functions.



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What is a Product Scope ?

Product scope is about the **product details**. Product scope defines what the product will **look like**, **how will it work**, its **features**, etc.

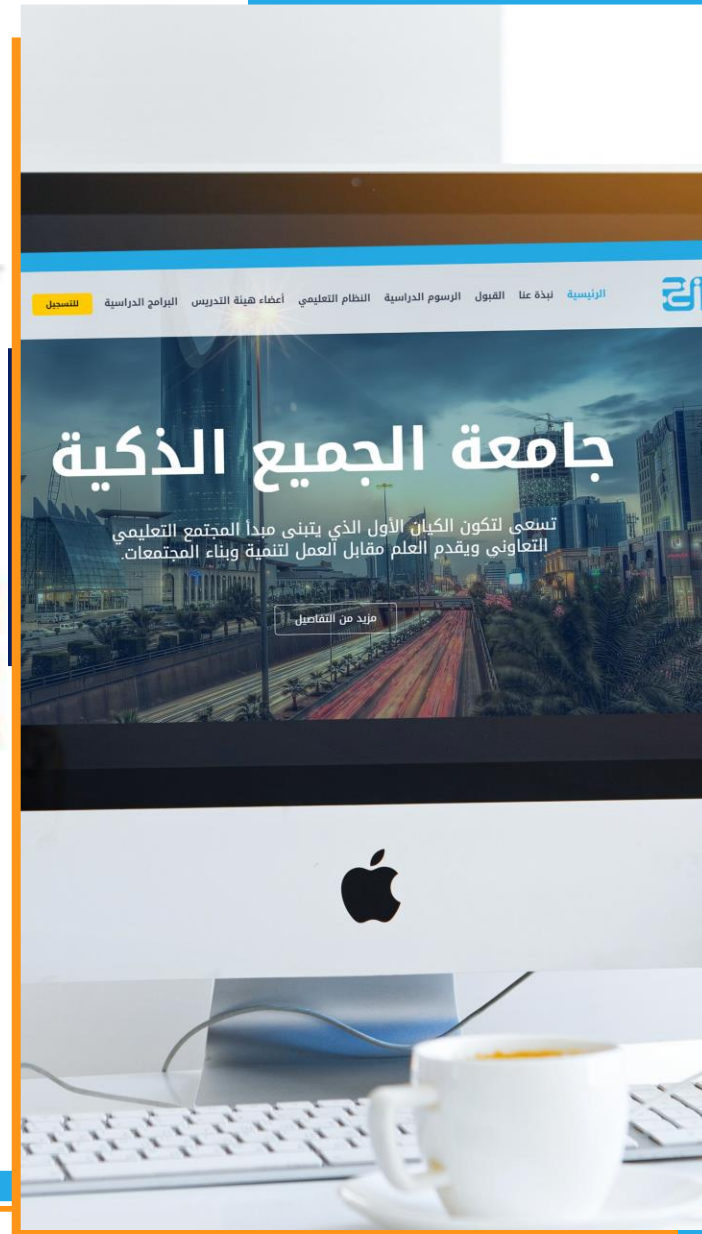
According to the PMBOK Guide 6th edition, product scope is the **features** and **functions** that characterize a product, service or result.

For example, if the product is a **bridge**, the product scope might be its **length**, **width**, **load strength**, etc.

If the product is a **cell phone**, its product scope will be its screen size, battery backup, processor speed, camera type, memory, etc.

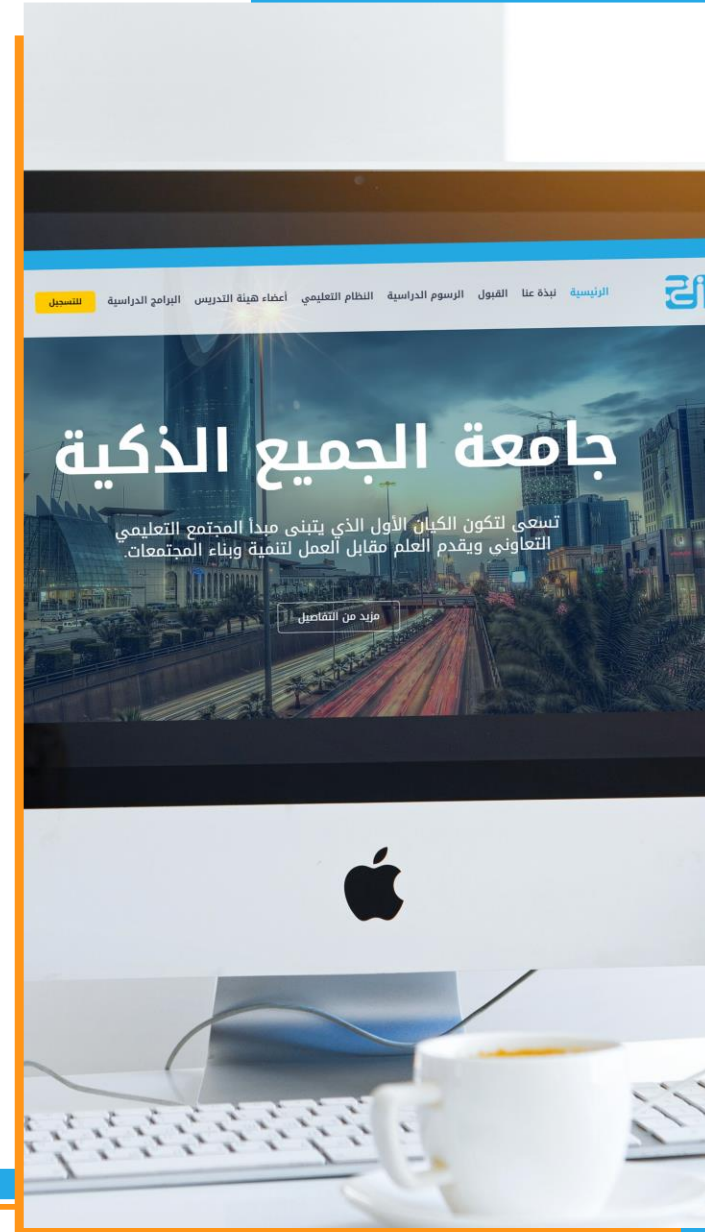
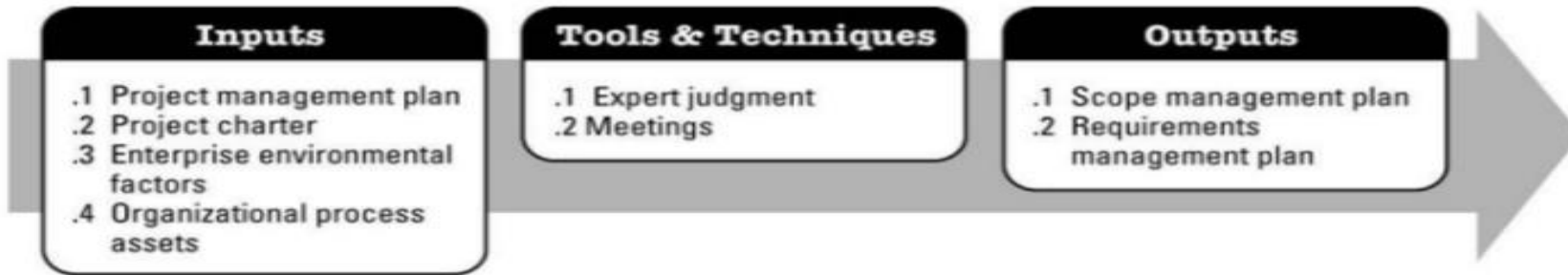


iPhone 5	
Display Size (inches)	4"
Display Resolution (pixels)	1136 x 640 pixels, 326 ppi
Connectivity	Wi-Fi 802.11a/b/g/n, LTE, 4G-LTE
Processor	A5
RAM	Unknown
Internal Storage	16GB, 32GB, 64GB
Battery Size	Unknown
Camera	8-MP iSxR, 1080p video (30FPS)
Size	4.9 x 2.3 x 0.6
Weight	4.88 oz (138g)
Camera	Apple, Sony, Nikon
Starting Price	\$199



5.1- Plan Scope Management

- The process of creating a scope management plan that **documents how** the project scope will be **defined, validated, and controlled**.
- It provides **guidance and direction** on scope will be managed.



5.2- Collect Requirements

Requirements can be grouped into **classifications** including:

Business requirements, describe the high-level needs of the organization as a whole.

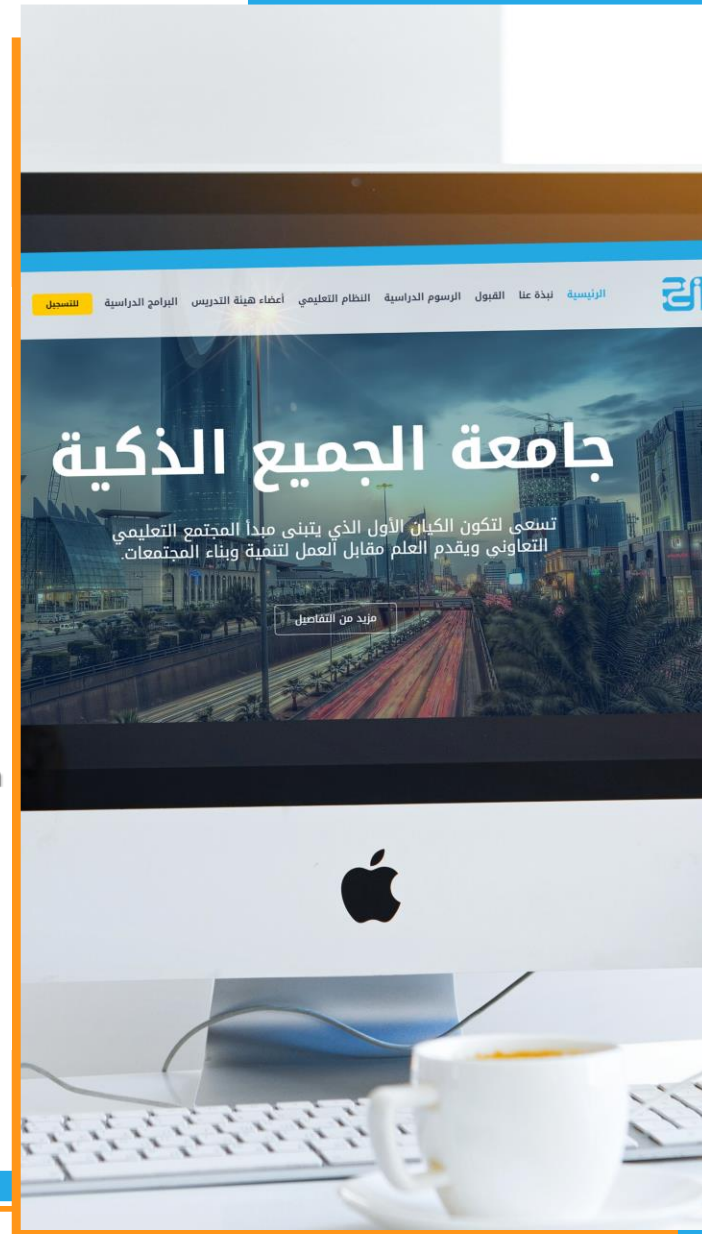
Stakeholder requirements, describe needs of a stakeholder or stakeholder group.

Solution requirements, describe features, functions and characteristics of the product, service, or results.

Transition requirements, describe temporary capabilities such as data conversion & training needs.

Project requirements, which describe the actions, processes, or other conditions the project needs to meet.

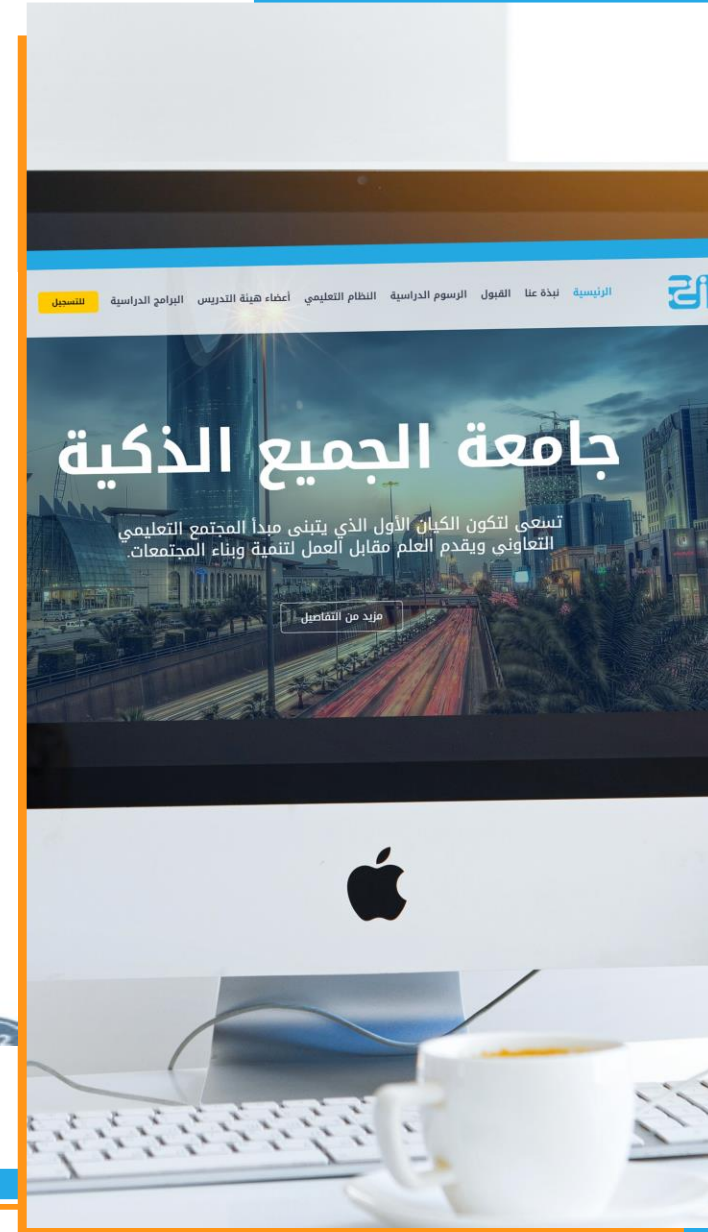
Quality requirements, which capture any condition or criteria needed to validate the successful completion of a project deliverable or fulfillment of other project requirements.



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5.2- Collect Requirements

- The process of defining and documenting **stakeholders' needs** to meet the project objective.



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Collect Requirements: T & T

1. Interviews:

meeting the stakeholders to ask prepared and spontaneous question & recording the responses.

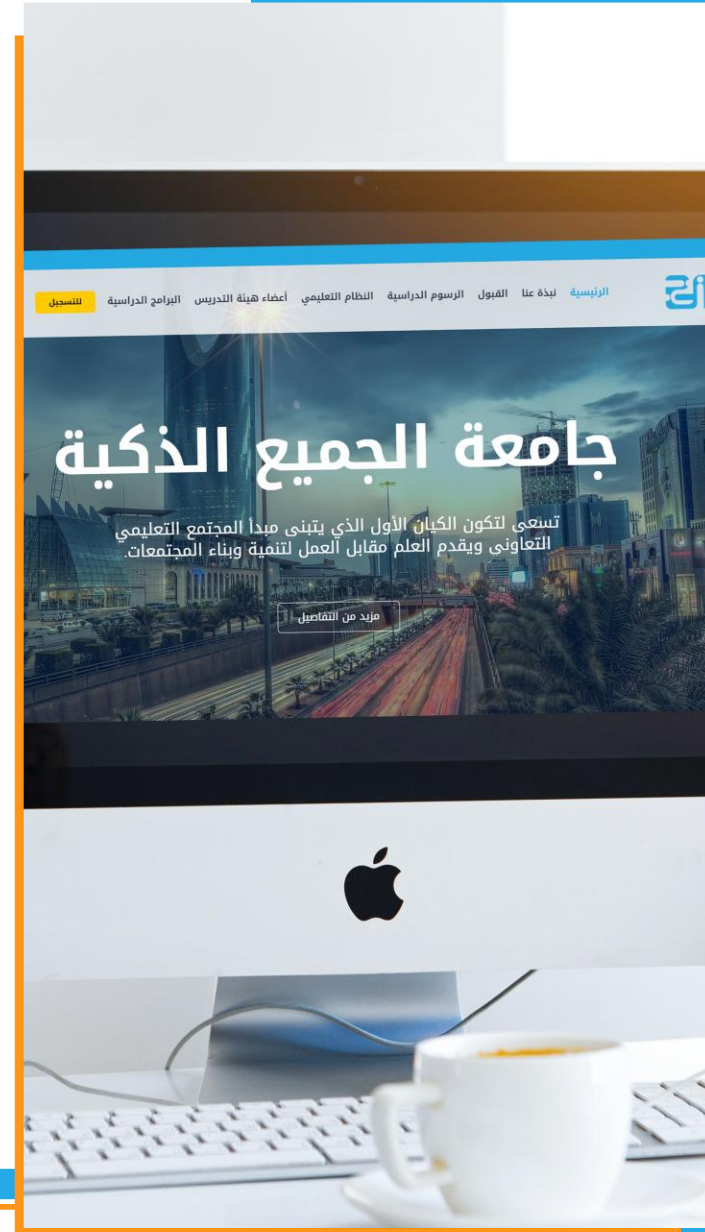


2. Focus groups:

Bring stakeholders and **subject matter experts** together to learn about their expectations and attitudes about the project.



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Collect Requirements: T & T

3. Facilitated Workshops :

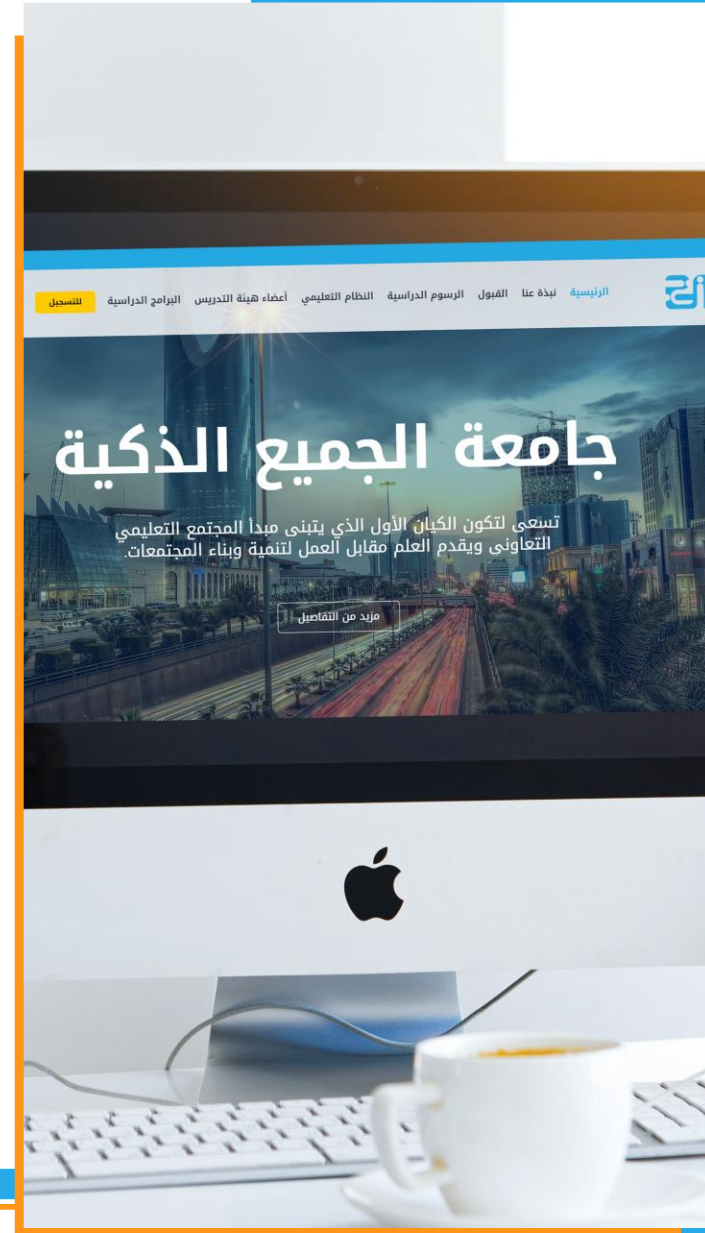
Focused session with key cross-functional stakeholders to define product requirements.

JAD Joint application design, in **software development industry** bringing business **subject matter experts** and the **development team** together to improve the software development process

QFD Quality function development In the **manufacturing industry**

Helps determine **critical characteristic** of new product development
Start by collecting **customer need**

QFD = VOC: Voice of the Customers



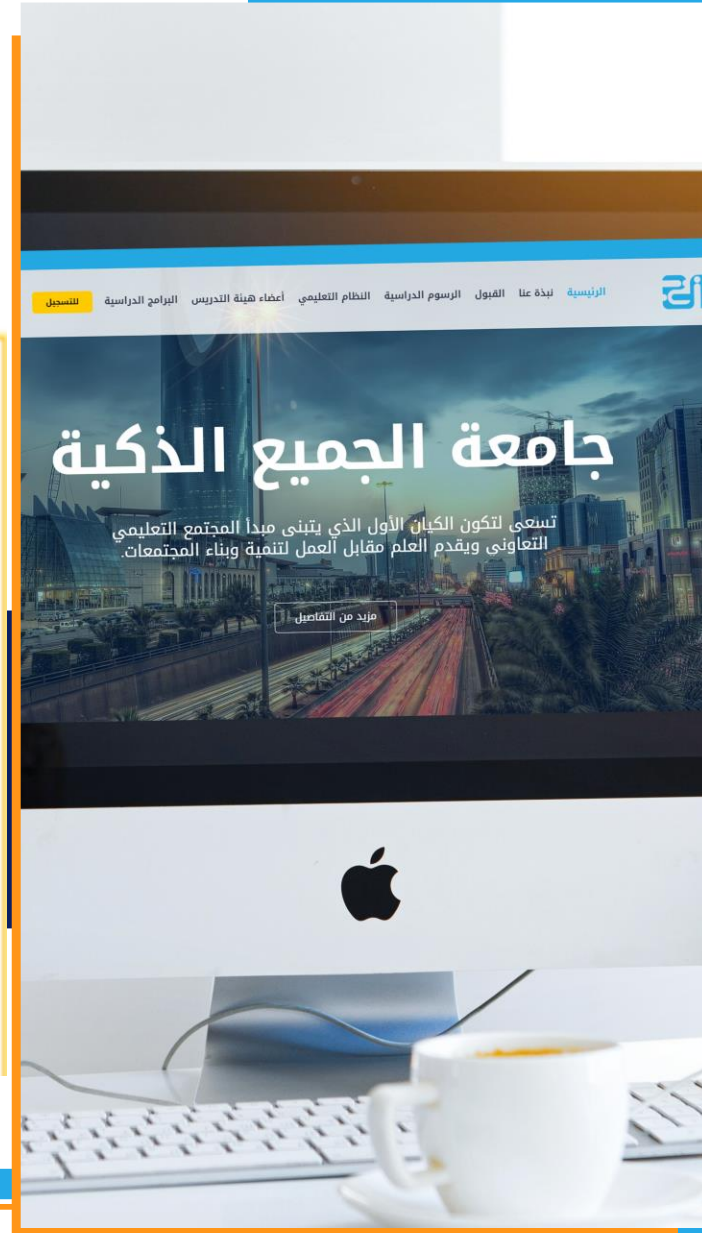
• 5.2.2.2 DATA GATHERING

• Questionnaires and surveys

- sets of questions designed to **quickly** accumulate information from a **wide number** of respondents.

• Using

- 1- quick turnaround is needed
- 2- where statistical analysis is appropriate.



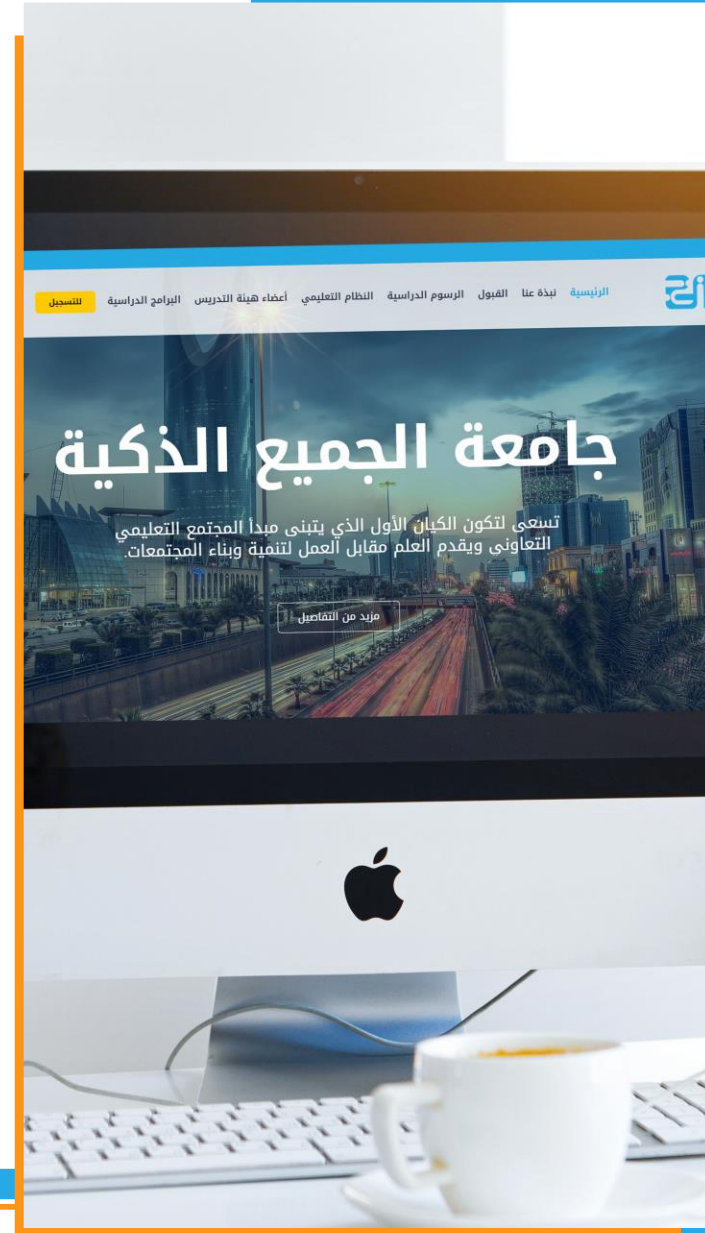
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• DATA GATHERING

- **Benchmarking.**
- **comparing** actual or planned practices to comparable **organizations**

• Using

- 1- identify best practices
- 2- generate ideas for improvement
- 3- provide a basis for measuring performance.



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TT ☐ Decision Making صنع القرار

1- Voting: التصويت

Unanimity : الإجماع

Everyone agrees on a single course of action



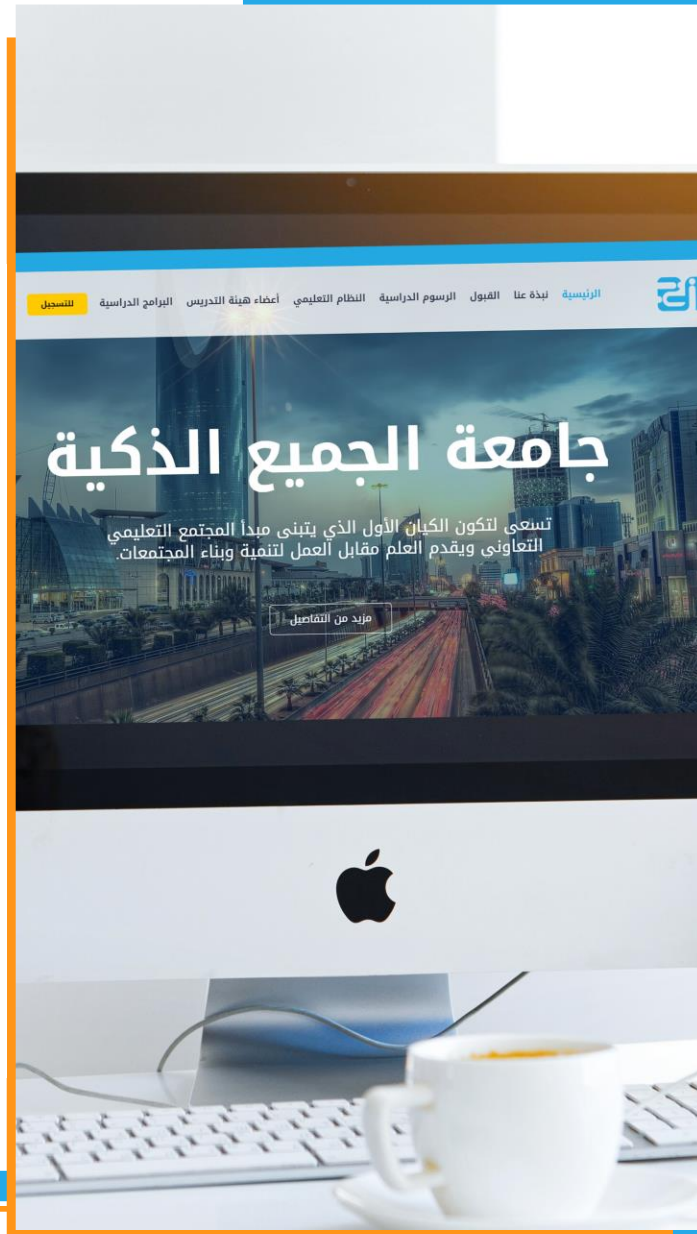
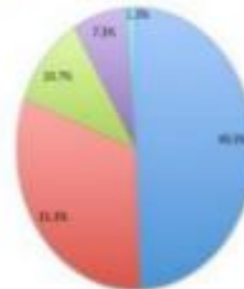
Majority : الأغلبية

Support from more than 50%



Plurality : الأكثرية

The largest group even if no majority



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- **PROTOTYPES**

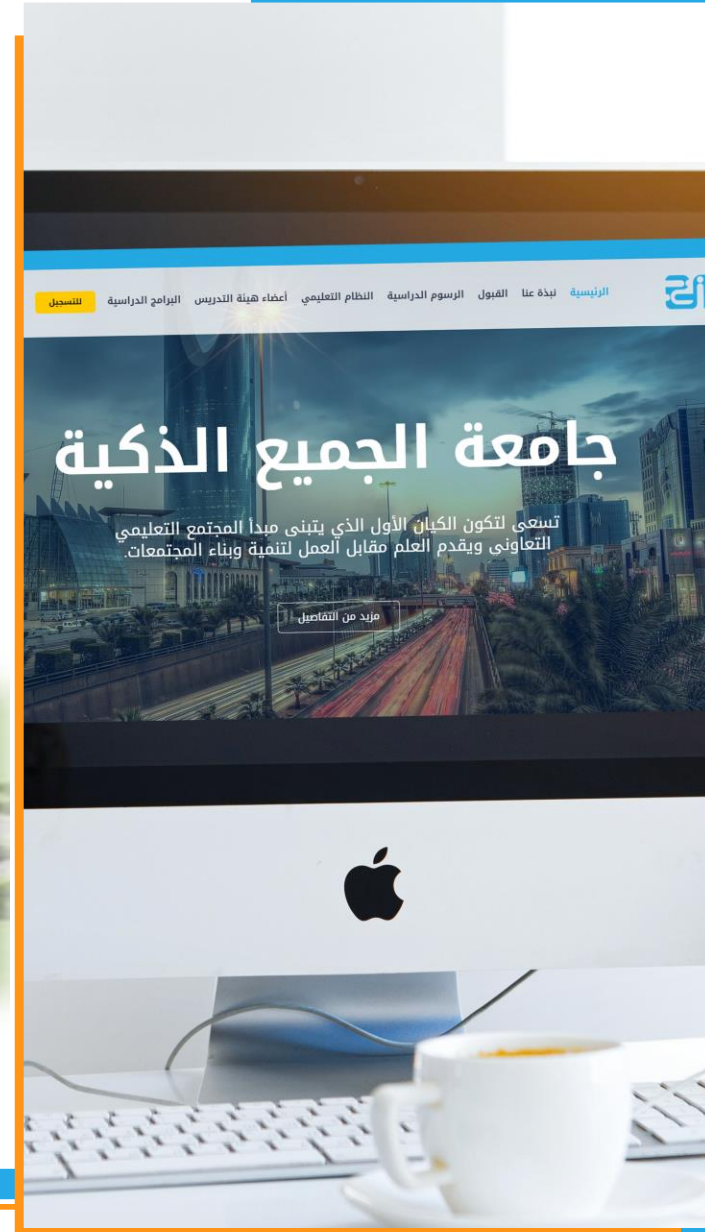
- **early feedback on requirements**

- **Examples**

- **small-scale products**
- **computer generated 2D and 3D models mock-ups**
- **simulations**



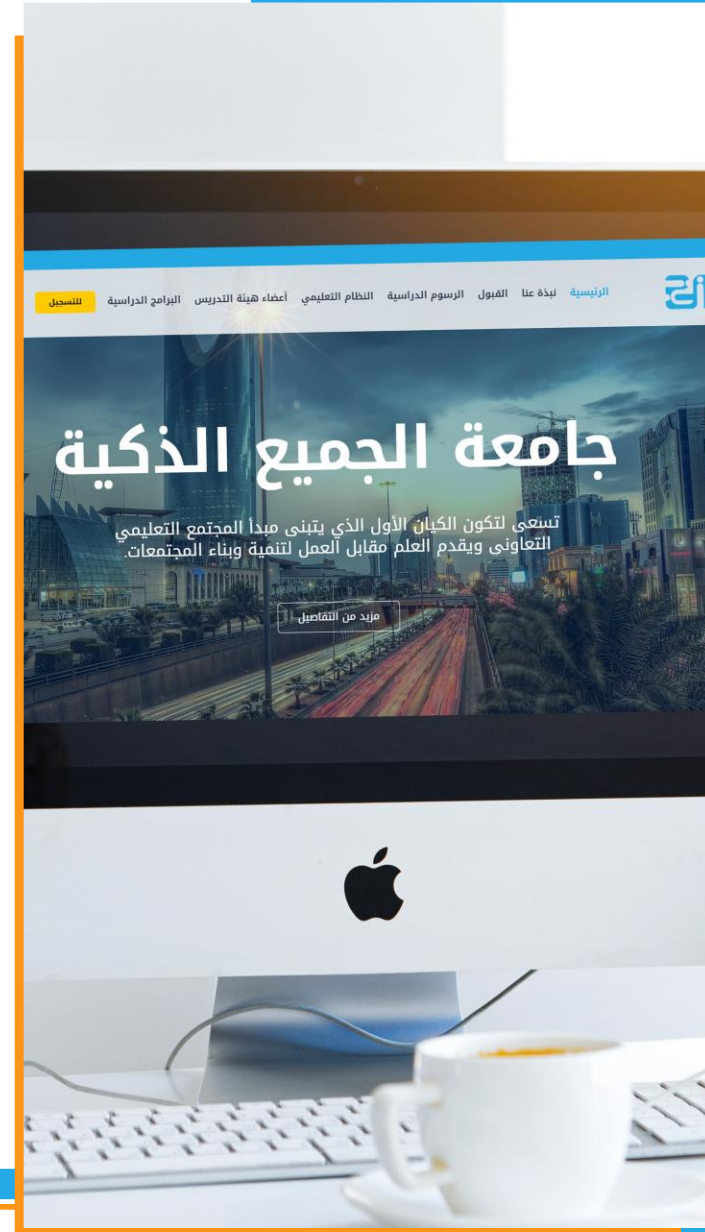
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5.2.3 COLLECT REQUIREMENTS OUTPUTS

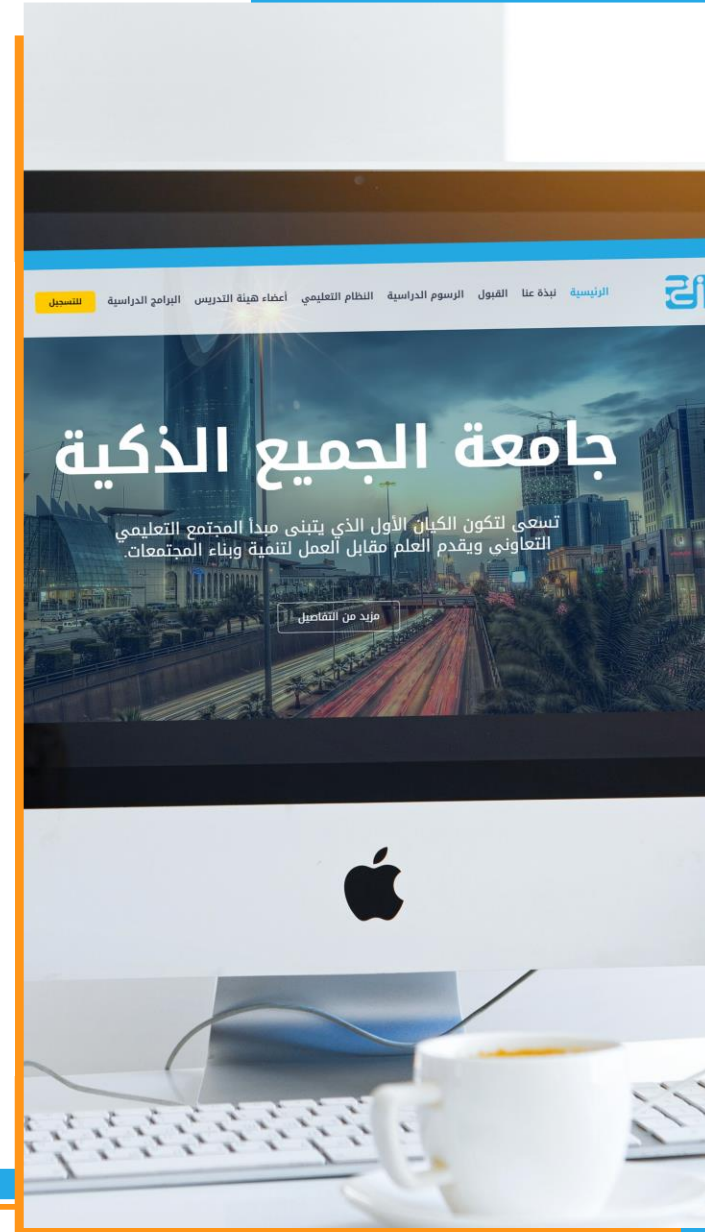
• 5.2.3.1 REQUIREMENTS DOCUMENTATION

- how individual requirements meet the business need for the project.
- Requirements may start out at a high level and become progressively more detailed
- . Before being baselined, requirements need to be measurable and testable



Requirement Documentation

Stakeholder	Requirement	Category	Priority	Acceptance Criteria
Identify the name or organization of the stakeholder	Identify the requirement.	Assign a category.	Prioritize in total or by category.	Define the criteria for acceptance.

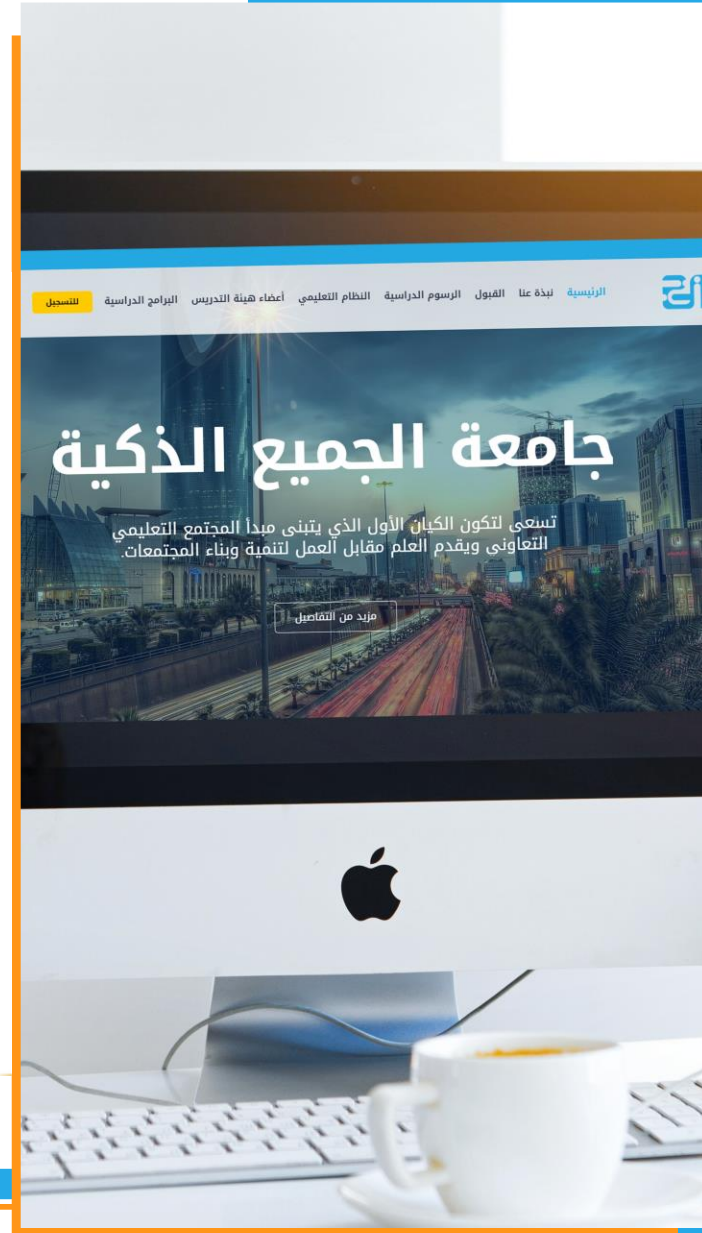


REQUIREMENTS TRACEABILITY MATRIX

links requirements from origin to the deliverables

ensure each requirement adds business value

linking it to the business and project objectives



Requirements Traceability Matrix

Requirement Information					Relationship Traceability		
ID	Requirement	Priority	Category	Source	Relates to Objective	Manifests in WBS Deliverable	Verification
	From requirements documentation.	From requirements documentation.	From requirements documentation.	From requirements documentation.	Relationship to objectives in the Project Charter	Deliverable in the WBS that meets the requirement; can use WBS ID coding.	Method of verifying requirement is met.



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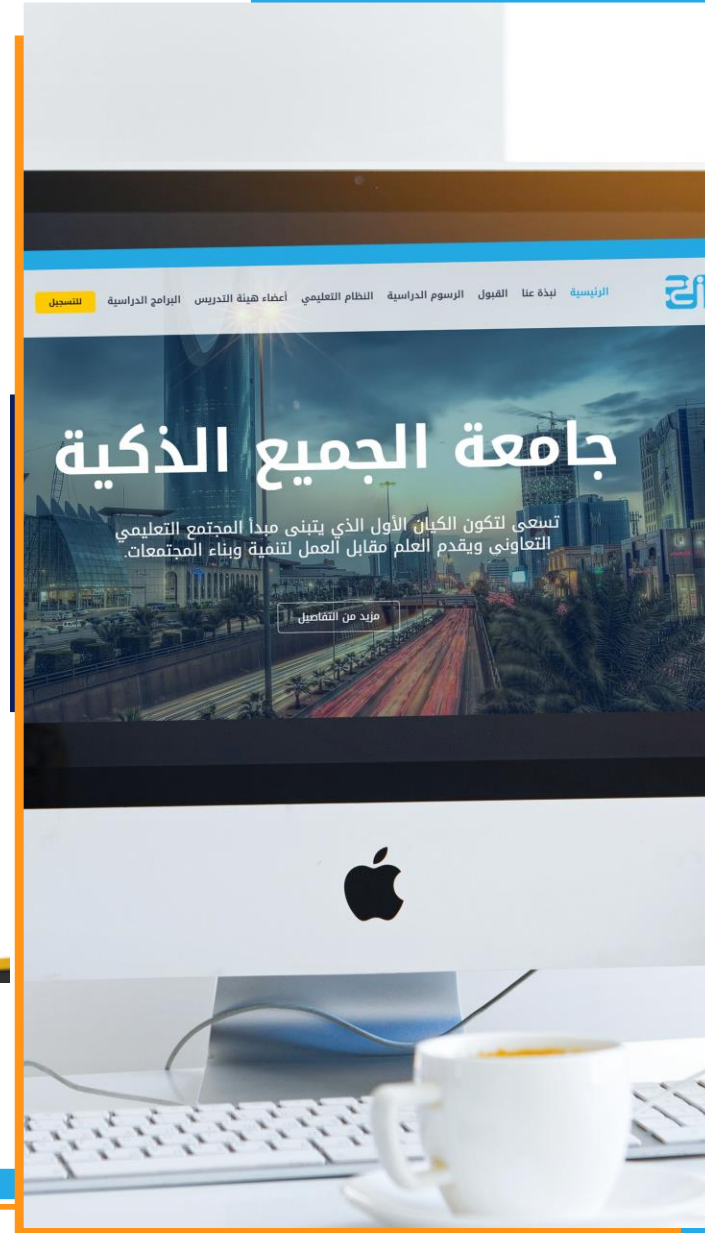
Define Scope

Description

- developing a detailed description of the project and product

Key Benefit

describes the product, service, or result boundaries and acceptance criteria



5.3 DEFINE SCOPE

Inputs

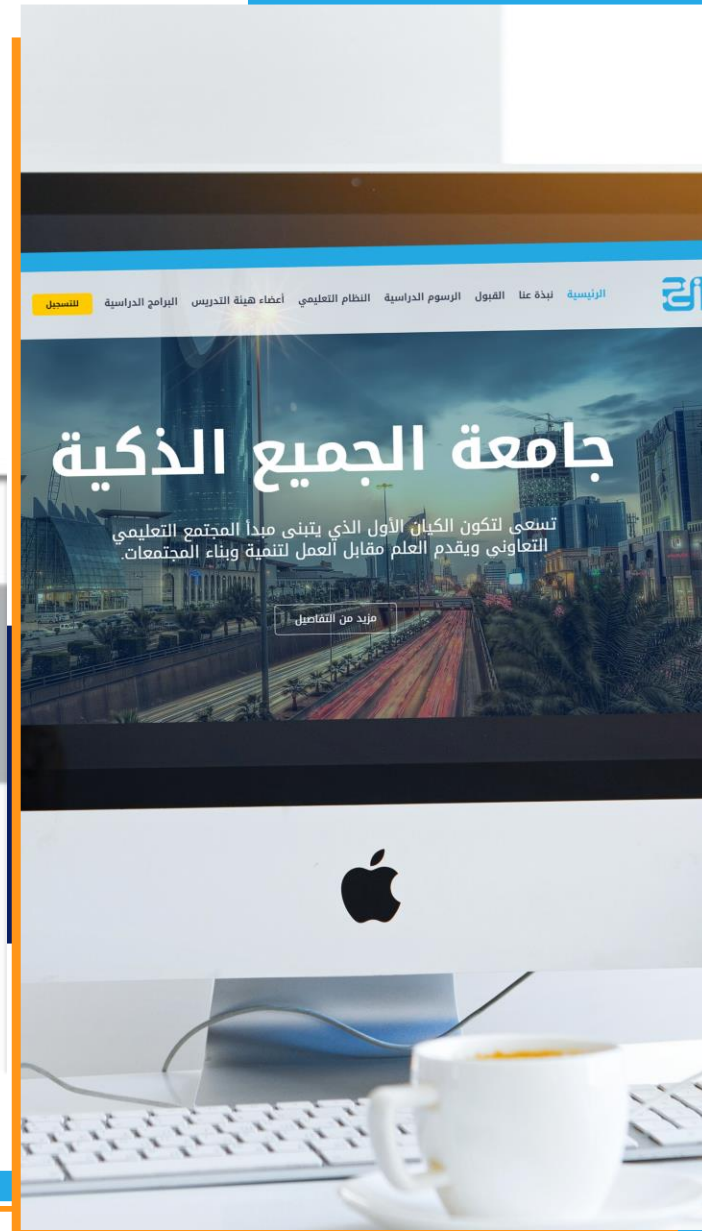
- .1 Project charter
- .2 Project management plan
 - Scope management plan
- .3 Project documents
 - Assumption log
 - Requirements documentation
 - Risk register
- .4 Enterprise environmental factors
- .5 Organizational process assets

Tools & Techniques

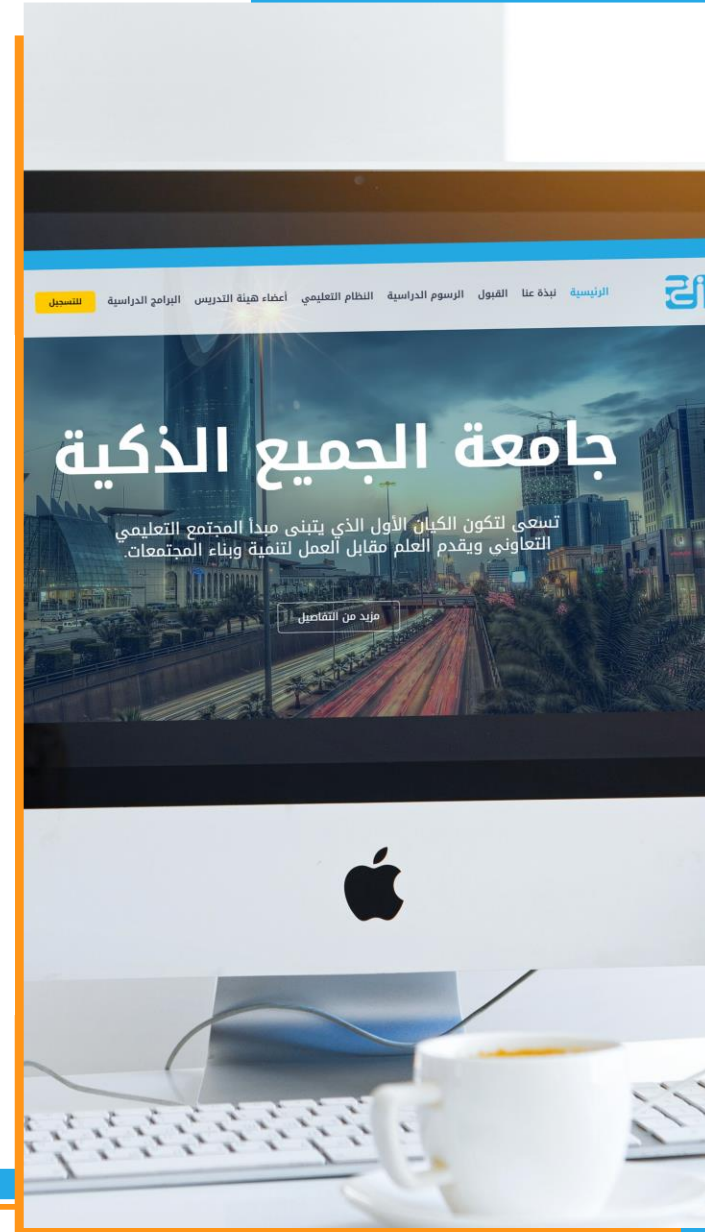
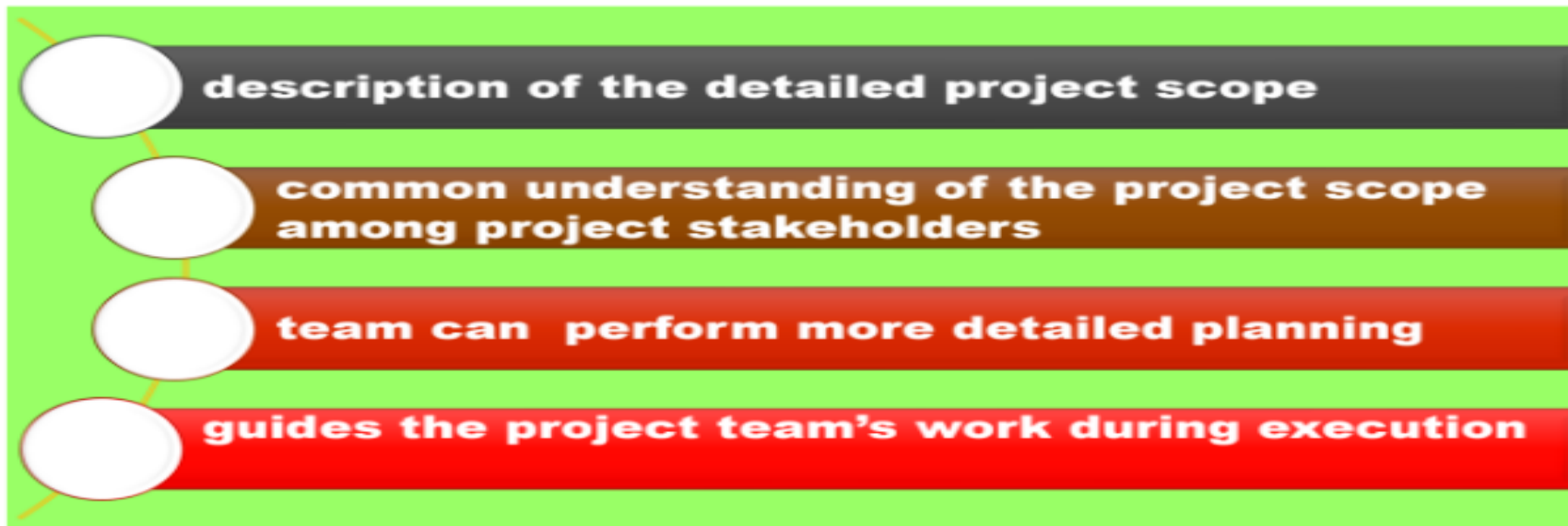
- .1 Expert judgment
- .2 Data analysis
 - Alternatives analysis
- .3 Decision making
 - Multicriteria decision analysis
- .4 Interpersonal and team skills
 - Facilitation
- .5 Product analysis

Outputs

- .1 Project scope statement
- .2 Project documents updates
 - Assumption log
 - Requirements documentation
 - Requirements traceability matrix
 - Stakeholder register

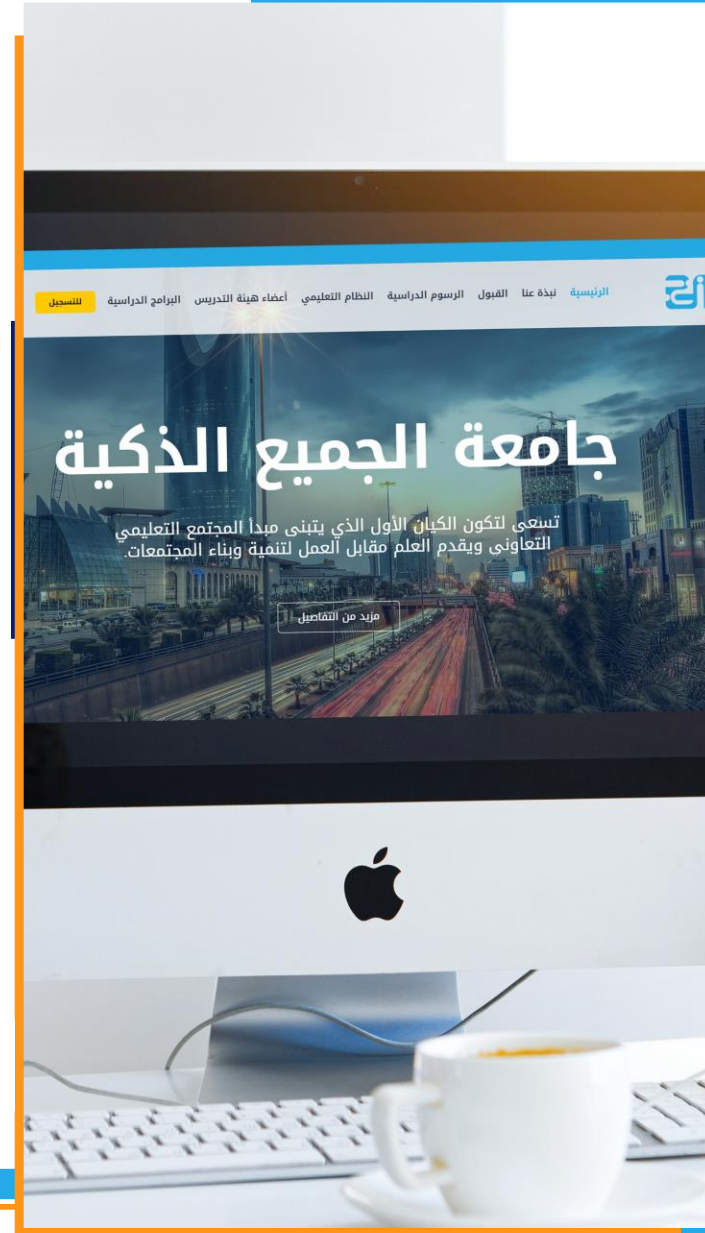


PROJECT SCOPE STATEMENT



5.3.3.1 PROJECT SCOPE STATEMENT

Contents



What is Project Scope Statement ?

The building contractor would receive the necessary clearances (for floor plans, architecture etc.) from the local town council body → **Acceptance criteria**

The cost should not exceed \$100K → **Constraint**

The site would receive uninterrupted electricity and water supply during the course of the project → **Assumption**

A roof-top swimming pool is not included → **Exclusion**

Deliverables include the

- House,
- The floor plan,
- Electrical and plumbing diagrams,
- All the approval documents,
- keys for the doors,
- Windows, cupboards and drawers.



Project Scope Statement

Project scope description
(progressively elaborated)

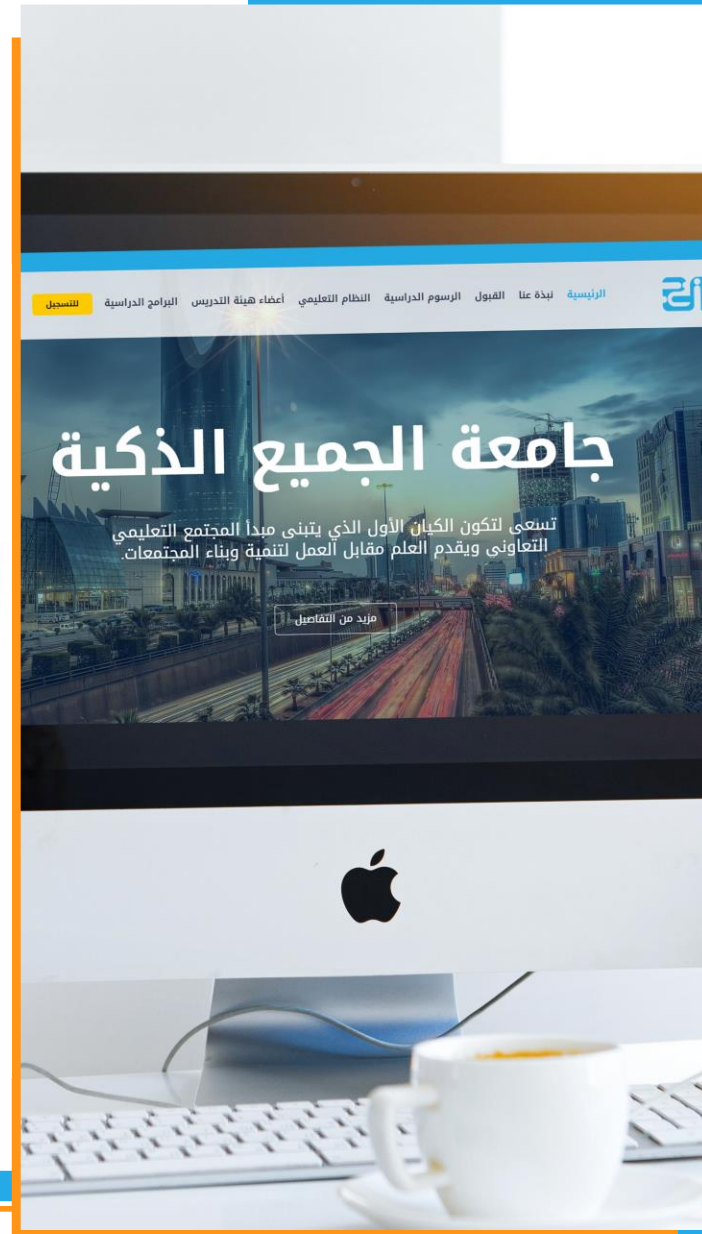
Acceptance criteria

Project deliverables

Project exclusions

Project constraints

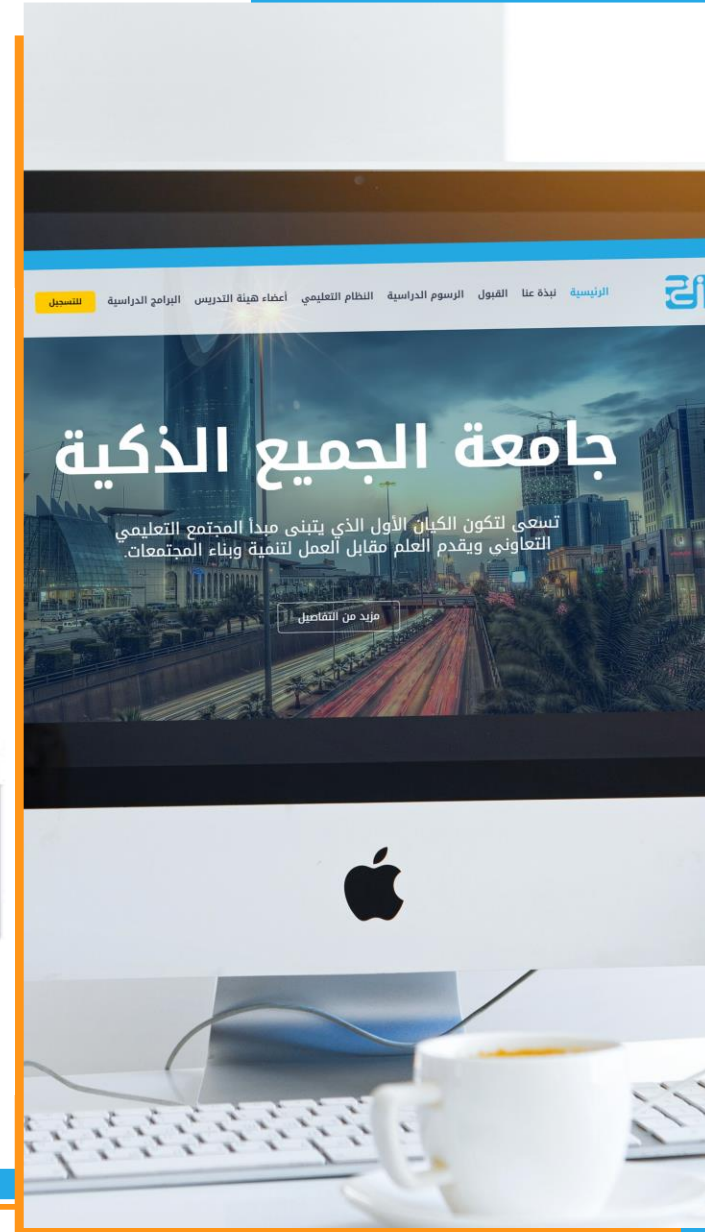
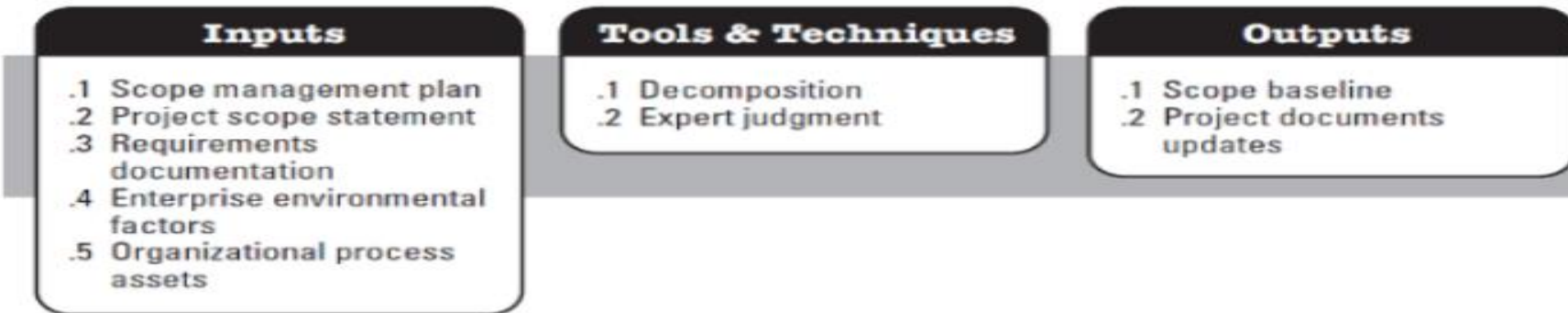
Project assumptions



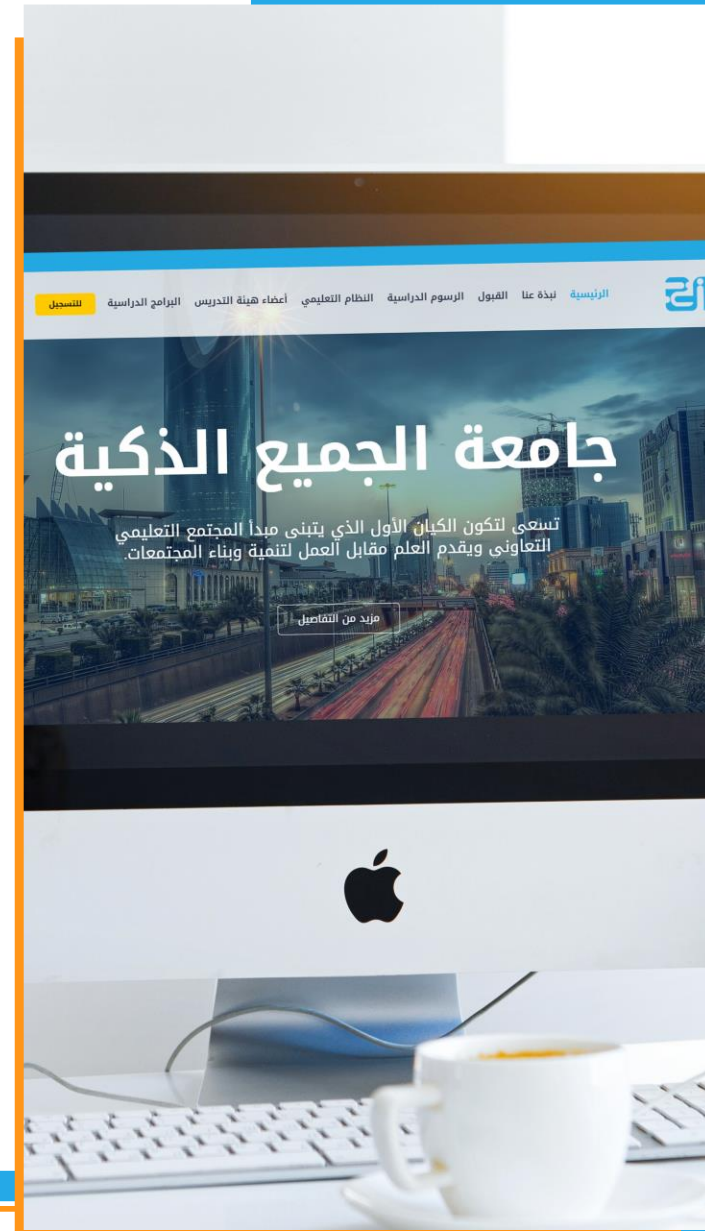
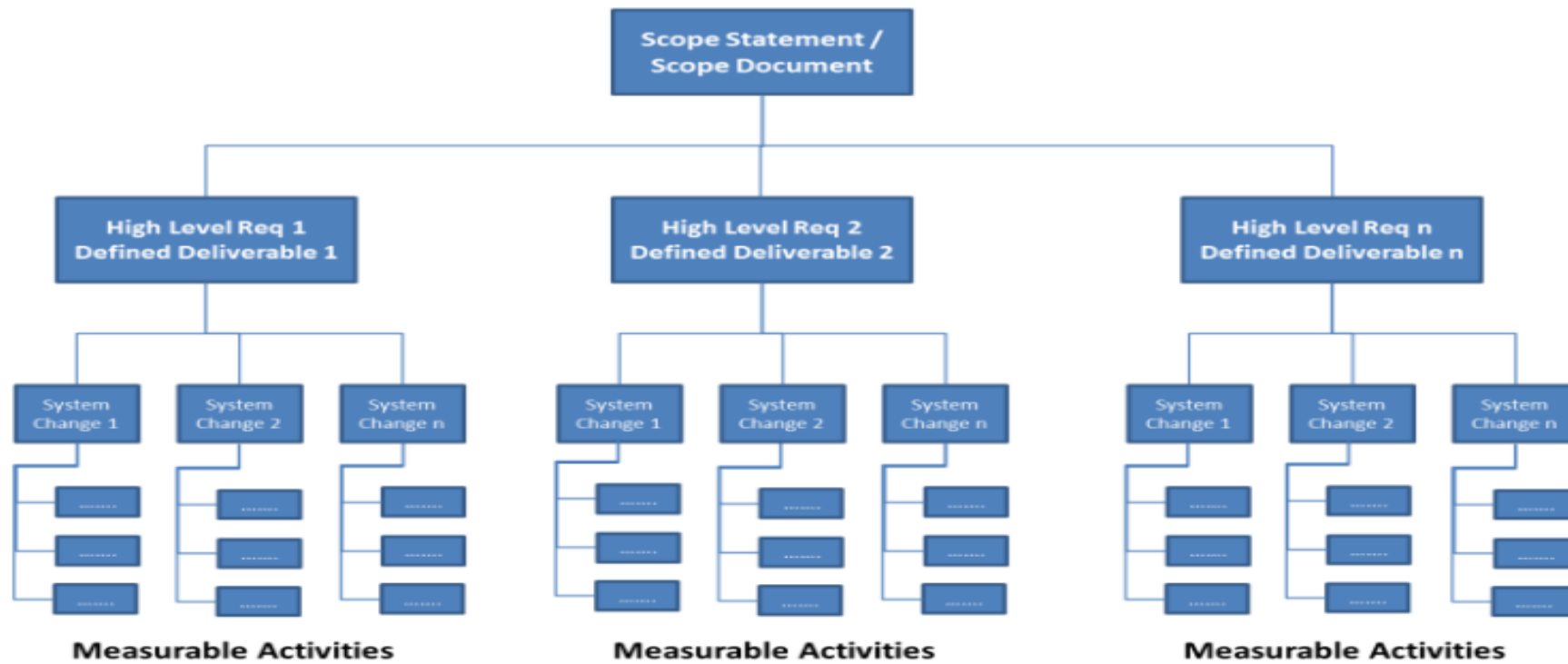
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5.4 Create WBS.

- **Subdividing** the project **deliverables** and project work into smaller and more manageable components.
- **WBS** is a **deliverable-oriented** hierarchical decomposition of project work.

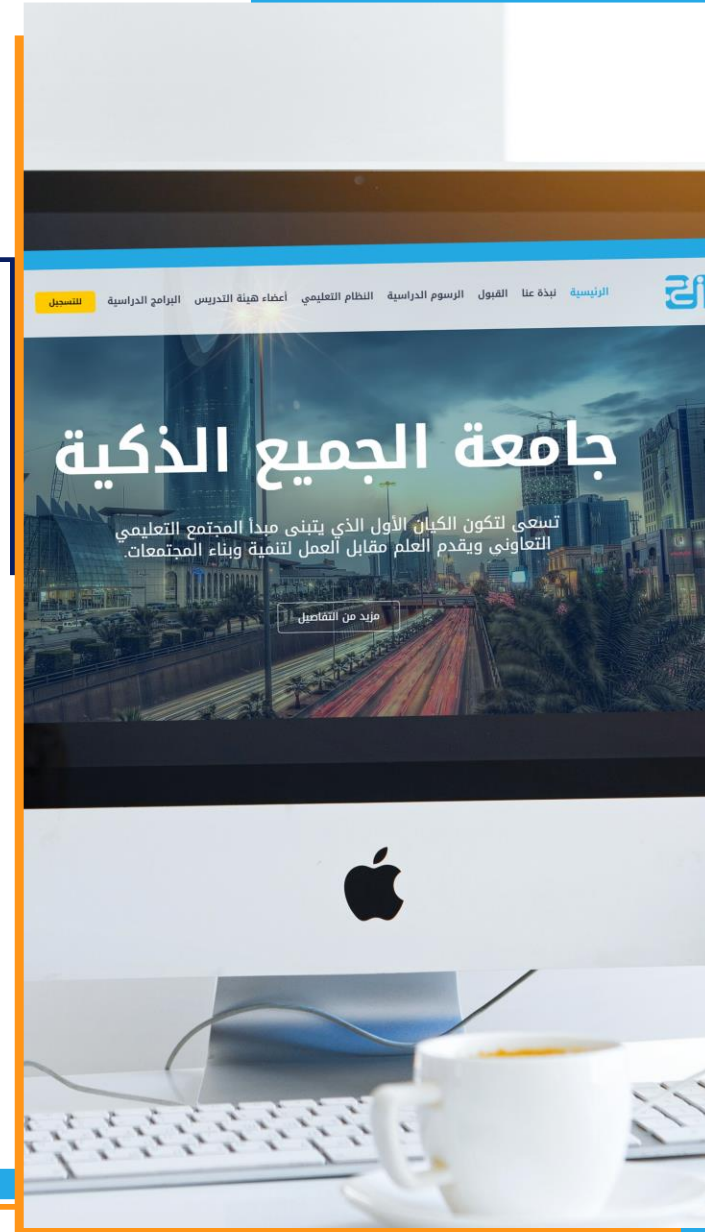


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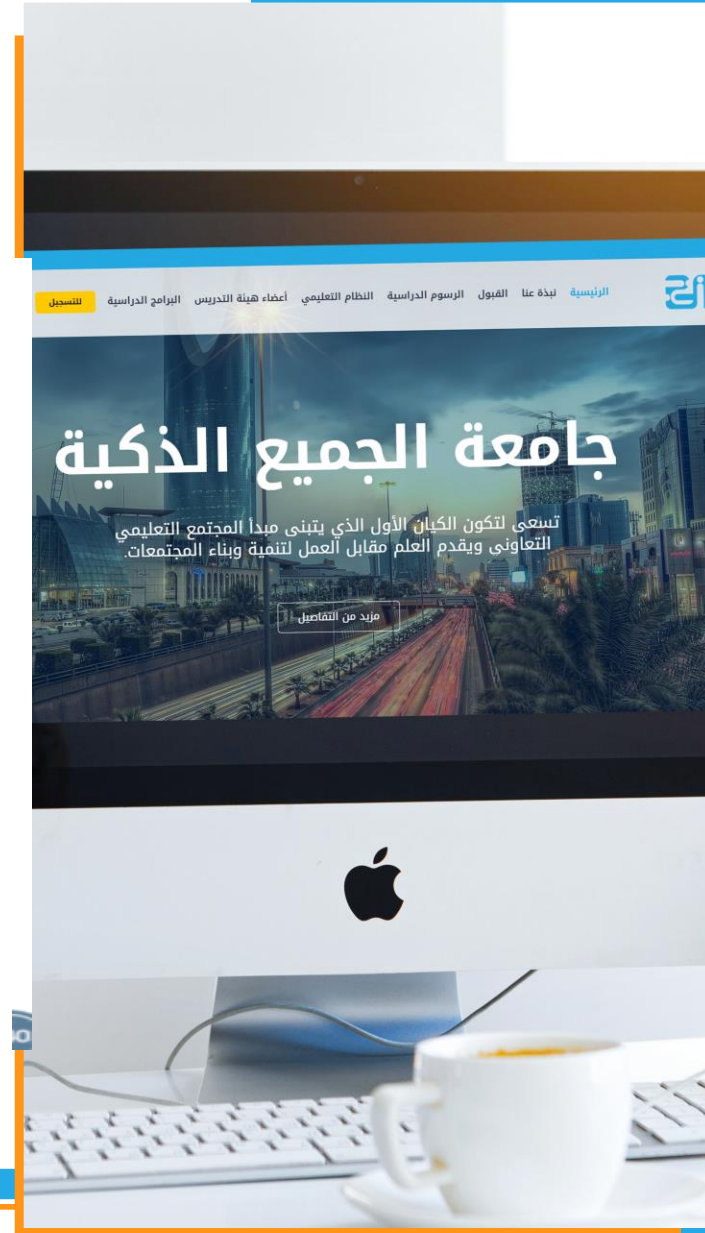
- **Control Account** is a tool that allows for the **aggregation** and analysis of **work performance data** regarding **costs, schedule, and scope**
- **Control Account** provides a way to **manage** and **control costs, schedule, and scope** at a **higher level than the work package**.
- Each **work package** in the **WBS** would be **assigned** to only **one control account**.



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• WBS dictionary.

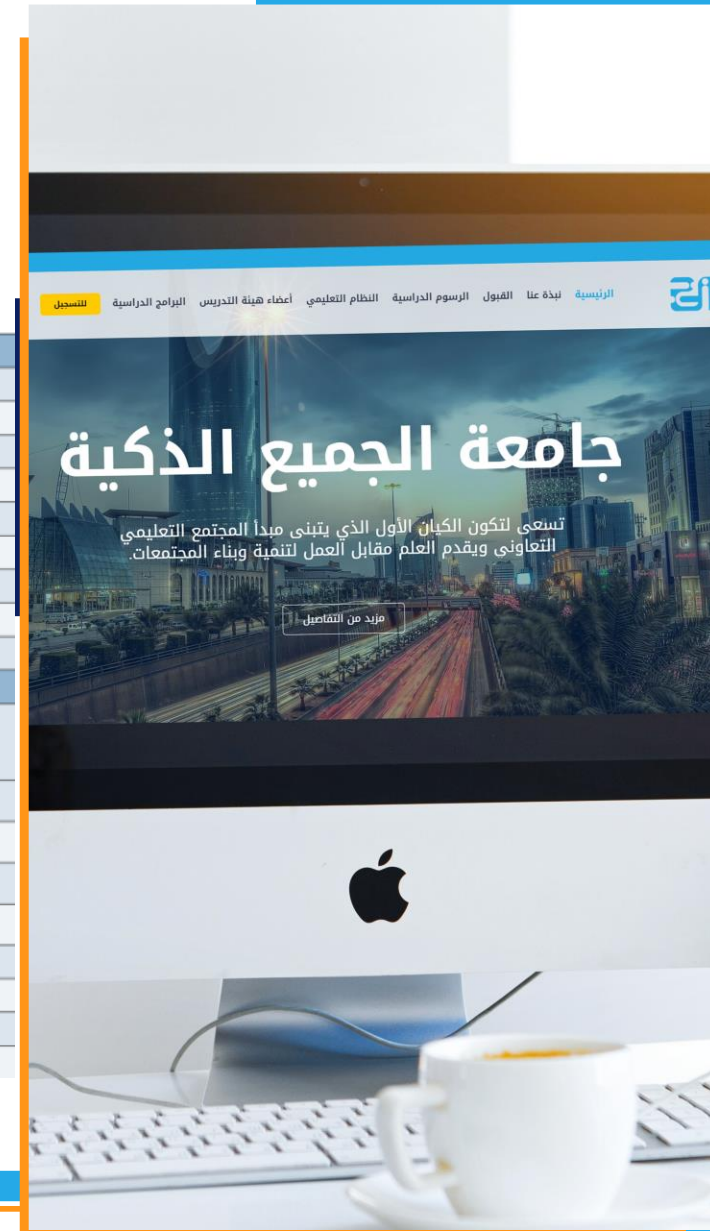
- A document that provides **detailed deliverable, activity, and scheduling information** about each component in the WBS.
- A document that **supports the WBS. Information** in the WBS dictionary may include, but is not limited to:
 - **Code of account** identifier,
 - **Description** of work,
 - Assumptions and constraints,
 - Responsible organization,
 - Schedule **milestones**,
 - Associated schedule activities,
 - **Resources** required,
 - **Cost** estimates,
 - **Quality** requirements,
 - Acceptance **criteria**,
 - Technical references, and
 - Agreement **information**.



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WPS Dictionary

WP Name								WBS ID			
Description								Assumptions & Constraints			
Milestones											
SN.	Name					Due Date					
Activity											
SN.	Name	Human Resource			Non-human Resource			Material			Line Total
		Hours	Rate	Total	Hours	Rate	Total	QTY	Rate	Total	
Quality Requirements						Acceptance Criteria					
Technical Reference						Contractual Info					



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WBS dictionary

Project Name: Customer Help Desk

Work Package ID: 1.4.1.1

Work Package Name: Designed User Screen

Work Package Description: Using the customer's User Screen Specification, a new top-level layout design is to be created. Based on this a non-functioning layout demonstrator is to be prepared to collect feedback from the customer. A fully functional prototype will be created for the client to review and approve.

Assigned To: Dave Litten

Group/Dept: IT Systems

Date Assigned: 7/30/09

Date Due: 15/9/09

Estimated Cost: \$3,800.00

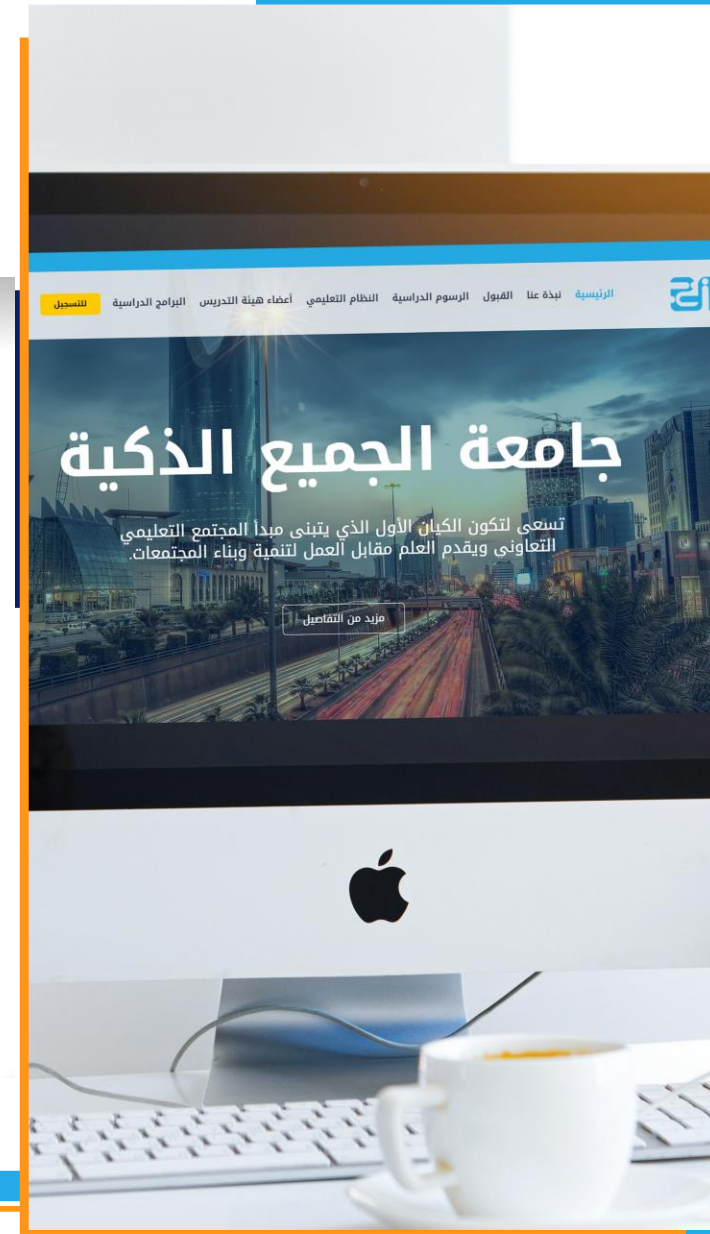
Account Code: CHD/1/4/33

Acceptance Criteria:

Resources Assigned:

Deliverables:

Assumptions:

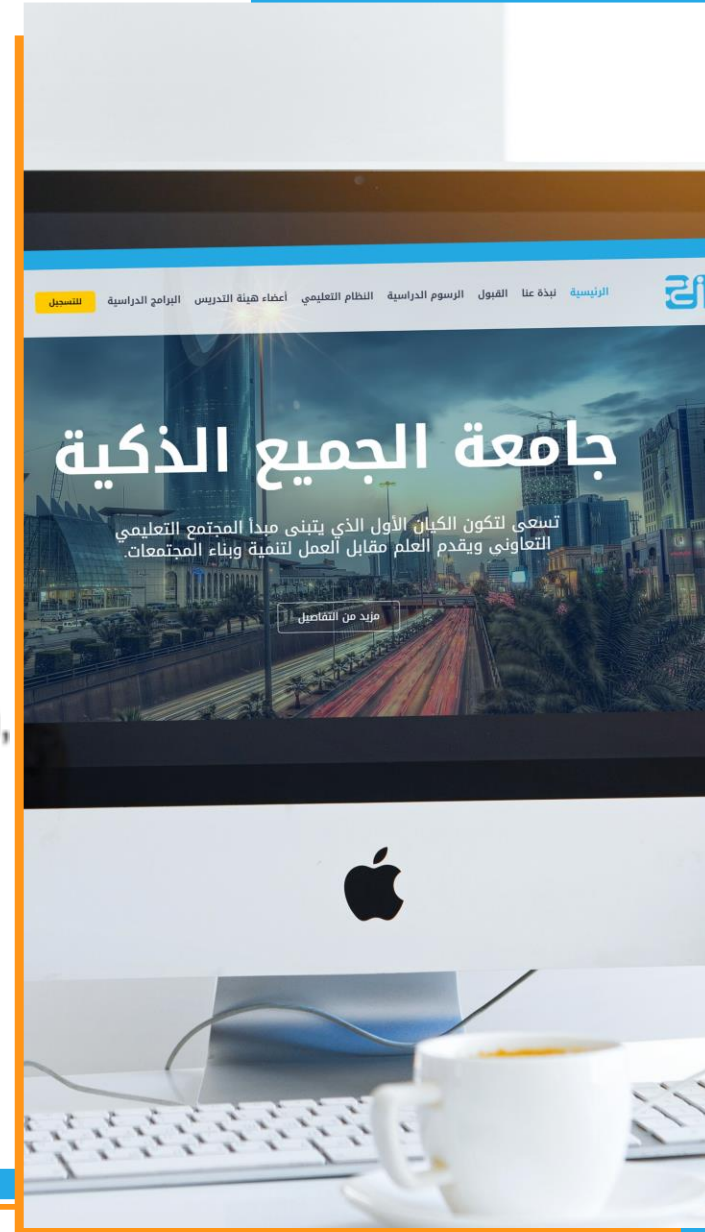


5.4.3 CREATE WBS: OUTPUTS

Work package: lowest level WBS component which can be scheduled, cost estimated, monitored and controlled.

WBS dictionary provides more detailed components, e.g. description of work, responsible organization, acceptance criteria

Agreed **Scope baseline** includes project scope statement, WBS, WBS dictionary



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