

# KK06 — Constraints that influence solution development

Analysis & Design · Comprehensive exam study guide

## STUDY DESIGN — YOU MUST KNOW

- economic
- legal
- social
- technical considerations

**Constraints** are limitations the developer must work within. Know the four categories with scenario examples — questions often ask you to identify and explain a constraint from a stem.

### The four constraint types

| Constraint | Examples                                                                          |
|------------|-----------------------------------------------------------------------------------|
| Economic   | Budget, cost of licences/hosting, development time available.                     |
| Legal      | Privacy law, copyright, data-protection and accessibility obligations.            |
| Social     | User expectations, accessibility needs, ethical/cultural considerations.          |
| Technical  | Available hardware/software, device capabilities, chosen language, compatibility. |

### Constraint vs requirement

A **constraint** limits how you build (you can't exceed the budget); a **requirement** is something the solution must do. The same factor can appear as both — e.g. 'must comply with the Privacy Act' is a legal constraint that produces security requirements.

## Key definitions to memorise

|                             |                                                                                       |
|-----------------------------|---------------------------------------------------------------------------------------|
| <b>Economic constraint</b>  | A limitation arising from budget, cost or available time.                             |
| <b>Legal constraint</b>     | A limitation arising from laws such as privacy, copyright or data protection.         |
| <b>Social constraint</b>    | A limitation arising from user expectations, accessibility or ethical considerations. |
| <b>Technical constraint</b> | A limitation arising from available hardware, software or technology.                 |

## Exam technique

### EXAM TIP

- Identify the category from the stem's keywords (budget → economic, law → legal, users/accessibility → social, devices/software → technical).
- Explain the **EFFECT** of the constraint on development for the second mark.

### COMMON MISTAKES

- Mixing up social and legal (accessibility can be both — read the stem).
- Confusing a constraint (a limit) with a requirement (a function).

## Quick revision checklist

- I can name and exemplify the four constraint categories.
- I can identify constraints in a scenario and explain their impact.

## Exam practice — questions & model answers

**Q1. Identify the constraint category in each: (a) the budget is \$2,000; (b) the app must run on the school's old tablets; (c) it must comply with the Privacy Act.**

**Identify · 3 marks**

**Model answer**

- (a) Economic (1).
- (b) Technical (1).
- (c) Legal (1).

**Q2. Explain how a technical constraint could influence the development of a mobile app.**

**Explain · 2 marks**

**Model answer**

- Limited device hardware (e.g. low memory/old OS) (1)
- restricts the frameworks/features that can be used, so the design must be simplified to run reliably (1).