

Key to Undergraduate Feedback Codes

Use Case Diagram

UC1 - You missed some actors (Patient, Dentist, Hygienist, Secretary, Bank).

UC2 - You missed internal use cases (Book Appointment, View Appointment, Cancel Appointment, Record Treatment, Checkout Patient, Register Patient, Join Healthcare Plan).

UC3 - You missed external use cases (Checkup Visit, Hygiene Visit, Repair Visit, Monthly Debit).

UC4 - You missed some required participation links between actors and use cases; or added extra unnecessary links (e.g. Partner does not book appointments, only views them).

UC5 - You included external use cases within the system boundary (e.g. Monthly Debit, Check-up Visit, Hygiene Visit, Repair Visit).

UC6 - You missed generalisation of the Partner actor (with subtypes Dentist, Hygienist), possibly because you didn't include the external use cases (which need the subtype actors).

UC7 - You misused <<include>> dependency (it's not for arbitrary subroutine calls, but for showing shared flows that are part of several use cases).

UC8 - You misused <<extend>> dependency (it's not for arbitrary branching choices, but for a significant optional addition to the flow of a use case).

UC9 - You missed, or misplaced, subsystem boundaries (Registration, Appointment, Payment).

UC10 - You missed or misplaced the system boundary (Sheffield Dental Care).

UC11 - You misused a generalisation arrow (e.g. treating it as a flow; or relating things that are not subtypes).

UC12 - You got the granularity of use cases wrong (e.g. rescheduling an appointment is two use cases: Cancel Appointment, Book Appointment; or you went down to too fine a granularity of actions).

UC13 - You linked nodes to other nodes in an arbitrary fashion

Information Model

IM1 - You missed some important information entities from the model (Patient, Address, HealthcarePlan, Appointment/Booking, Treatment).

IM2 - You added unnecessary extra entities for things with no structure in this information model (e.g. Employee, Partner, Dentist, Hygienist, Checkup, Visit, Payment, Receipt, Filling - note the partner is a simple attribute of Appointment, since it has no structure).

IM3 - You missed some important associations (Patient-Address, Patient-HealthcarePlan, Patient-Appointment, Appointment-Treatment).

IM4 - You associated some entities that did not need to be directly related (e.g. Patient-Treatment, HealthcarePlan-Treatment - none of these are related directly).

IM5 - You had some associations with missing or wrong multiplicities (Patient-Address is many-to-one; Patient-HealthcarePlan is many-to-optional, Patient-Appointment is optional-to-many, Appointment-Treatment is many-to-many).

IM6 - You missed a needed association class (e.g. PlanCredits - qualifies the association between Patient-HealthcarePlan, with attributes to log the credits used up on the plan).

IM7 - You missed some important attributes from the information entities (e.g. for Address, or Treatment, or HealthcarePlan: see problem description again: they are all listed).

IM8 - You added extra attributes that were not in the problem description (don't be over-inventive, this makes the design unnecessarily complex).

IM9 - You added as attributes properties that should really be operations, since their values are derived from other attributes (possibly from other entities and their attributes).

IM10 - You represented as extra classes things that were instances of a class (e.g. the kinds of plan are instances of HealthcarePlan; the kinds of treatment are instances of Treatment; the kinds of appointment are instances of Appointment).

IM11 - You missed necessary operation signatures to support your OCL specification later (the OCL must refer to the information model).

IM12 - You provided too many additional implementation details (e.g. extra get-method signatures, visibility markers, arrays) which are not part of the initial information model.

IM13 - You provided extra implementation classes (e.g. Calendar, PartnerGUI, System) which are not part of the initial information model.

IM14 - You mixed up the initial information model with a data model (e.g. using a database profile already; or designing with linker tables already; or designing with foreign keys already)

IM15 - You included both an association and an attribute for the same related entity (if linked by association, you don't need also to add an attribute for it).

IM16 - You misused association type (e.g. generalization or composition association where there shouldn't be one).

Data Model

DM1 - You missed some important tables from the data model (Patient, Address, HealthcarePlan, Appointment, Treatment).

DM2 - You added unnecessary extra tables for things with no structure in the data model (e.g. Partner, Dentist, Hygienist, Checkup, Visit, Filling).

DM3 - When normalising all associations until they are many-to-one, you missed multiplicities, or got the direction of dependency reversed; or you over-simplified, merging entities which were in many-to-many relationships; or you did not merge one-to-one relationships.

DM4 - You did not create a linker entity (e.g. PlanCredits) for the Patient-HealthcarePlan many-to-optional relationship.

DM5 - You did not create a linker entity (e.g. TreatmentGiven) for the Appointment-Treatment many-to-many relationship.

DM6 - You created extra tables or linker entities (e.g. to link extra tables, e.g. Session, that you did not eventually need to model in the database if you got the other parts right).

DM7 - You missed marking some primary key attributes in some tables (e.g. Address must have a compound PK with: (houseNumber, postcode) and Appointment may have a compound PK with: (date, startTime, partner), or a surrogate key).

DM8 - You added extra unnecessary attributes to a compound primary key (e.g. endTime, treatment are not part of the PK of Appointment; street name is not part of the PK of Address).

DM9 - You missed the necessary surrogate key in Patient (e.g. patientID)

DM10 - You added extra unnecessary surrogate keys in some tables (only beneficial if you need to reduce the number of foreign keys (compounds of 3+) used in linker tables).

DM11 - You missed including suitable foreign key attributes in tables that referred to other tables, or included them but failed to mark them as foreign keys (e.g. Patient must include FKs postCode and houseNumber to refer to Address).

DM12 - In linker tables, you did not always mark the same key attributes as both primary and foreign keys (this is always the case).

DM13 - You had some non-normalised, or wrong relationship left in the data model (e.g. an aggregation from one Treatment to many Plans, or generalisation relationships, or untreated many-to-many relationships, or unmerged one-to-one relationships).

DM14 - Your database tables were not labelled with <<table>> in the UML database profile.

DM15 - You did not use the UML database profile as requested, but some other notation.

DM16 - Your data model introduced needed attributes which should have been in the information model (e.g. credits covered, treatment details, address details - the two models should be clearly related).

DM17 - Your data model introduced needed tables (or linker tables), which should have been present (linkers, as association classes) in the information model - was one model not related to the other, or developed entirely separately?)

DM18 - Your data model ignored the earlier information model completely and was redeveloped from scratch (maybe because the IM was too complicated and wrong?).

DM19 - You included foreign keys to other tables that were not directly linked in your data model; or the linkage of your tables did not reflect the foreign keys.

DM20 - You did not indicate the multiplicity and/or direction of the relationships in your model.

DM21 - You misused association type (e.g. generalization or composition association where there shouldn't be one).

DM22 - You missed some attributes from tables (e.g. the cleanings, checkups and treatments offered on a plan, or the remaining counts of these in the Patient-Healthcare Plan linker).

DM23 - You had a repeating group of attributes in a single table.