



DAP Quality Management System DBMS System Modules, Use Cases, Access and Capabilities Specification, and Database Schema Design Reference

This documents the key system modules definition with the following specification section:

Module Name
Rationale
Access and Capabilities
Use Cases Diagram
Database Schema

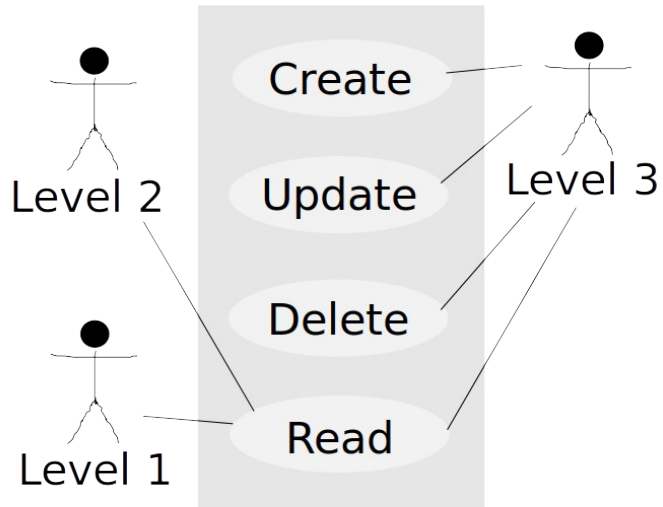
The use cases with respect to the database schema design is defined around the CRUD (create, read, update and delete) operations of the individual tables and the database schema illustrated the relationship between key table fields of the whole system design.

The use cases are defined with consideration for the use access definition of the earlier Database Concept reference document where there are three (3) user access definition of Level 1 (general public), Level 2 (Government Agency) and Level 3 (DAP PDC-GQMPO).

The order of presenting each module reflects the sequence of dependency of a particular module to a previous module.

Module Name	Module 1 - User Level
Rationale	This defines the system user access level, specifically: Level 1 (general public), Level 2 (Government Agency) and Level 3 (DAP PDC-GQMPO)
Access and Capabilities	Only the Level 3 user has full access to read, insert, update and delete records of the User table, Level 1 and 2 only have read access



Use Cases Diagram	
Database Schema	<ul style="list-style-type: none">• id serial primary key,• userlevel integer check (userlevel < 4),• creationdate timestamptz not null

Module Name	Module 2 - Position
Rationale	This stores the occupation/roles name records like "Administrative Aide 1"
Access and Capabilities	Only the Level 3 user has full access to read, insert, update and delete records of the User table, Level 1 and 2 only have read access



Use Cases Diagram	<pre>graph LR L1((Level 1)) --- R([Read]) L2((Level 2)) --- R L2 --- D([Delete]) L3((Level 3)) --- C([Create]) L3 --- U([Update]) L3 --- D L3 --- R</pre>
Database Schema	<ul style="list-style-type: none">• id serial primary key,• occupationdesc varchar(64) not null,• creationdate timestamptz not null

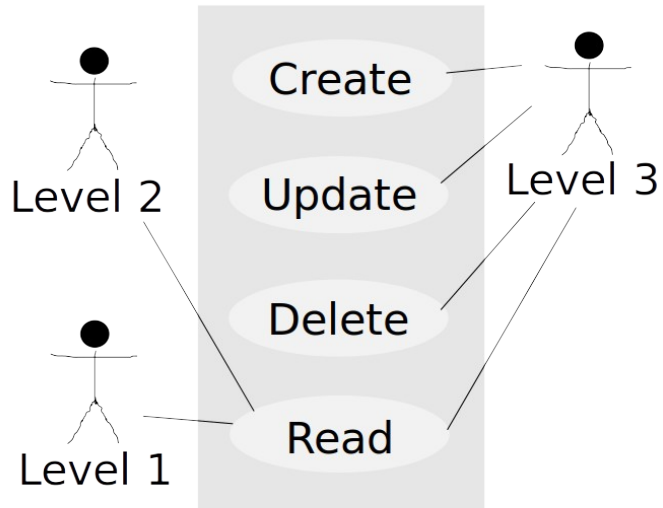
Module Name	Module 3 - Region
Rationale	This stores the specific Philippine region info like "Region 5" and "National Capital Region"
Access and Capabilities	Only the Level 3 user has full access to read, insert, update and delete records of the User table, Level 1 and 2 only have read access



Use Cases Diagram	<pre>graph LR L1((Level 1)) --- R([Read]) L2((Level 2)) --- R L2 --- D([Delete]) L3((Level 3)) --- C([Create]) L3 --- U([Update]) L3 --- D subgraph UseCases C U D R end</pre>
Database Schema	<ul style="list-style-type: none">• id serial primary key,• regionname varchar(24) not null,• creationdate timestamptz not null

Module Name	Module 4 - Provincial
Rationale	This stores the specific Philippine provinces per region like "Quezon Province" and "Albay"
Access and Capabilities	Only the Level 3 user has full access to read, insert, update and delete records of the User table, Level 1 and 2 only have read access



Use Cases Diagram	
Database Schema	<ul style="list-style-type: none">• id serial primary key,• provincename varchar(24) not null,• regionid integer references region(id) on delete restrict,• creationdate timestamptz not null

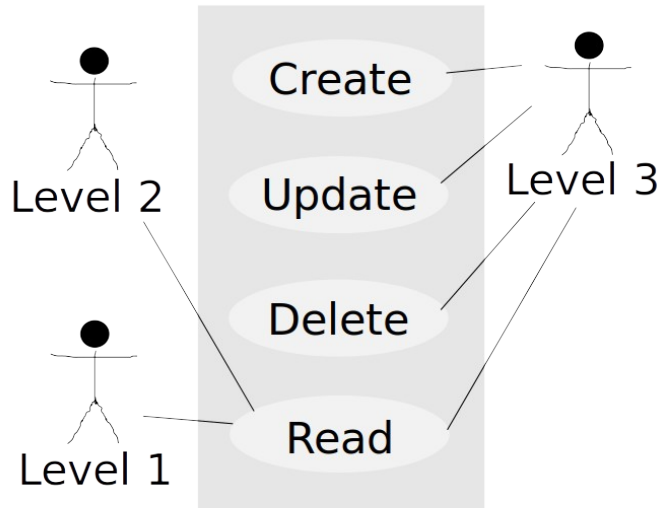
Module Name	Module 5 - District/Division
Rationale	This stores the specific provincial district for a specific province like "Taguig District 2"
Access and Capabilities	Only the Level 3 user has full access to read, insert, update and delete records of the User table, Level 1 and 2 only have read access



Use Cases Diagram	<pre>graph LR L1((Level 1)) --- R([Read]) L2((Level 2)) --- R L2 --- D([Delete]) L3((Level 3)) --- C([Create]) L3 --- U([Update]) L3 --- D L3 --- R</pre>
<ul style="list-style-type: none">Database Schema	<ul style="list-style-type: none">id serial primary key,distdivname varchar(24) not null,provinceid integer references province(id) on delete restrict,creationdate timestamptz not null

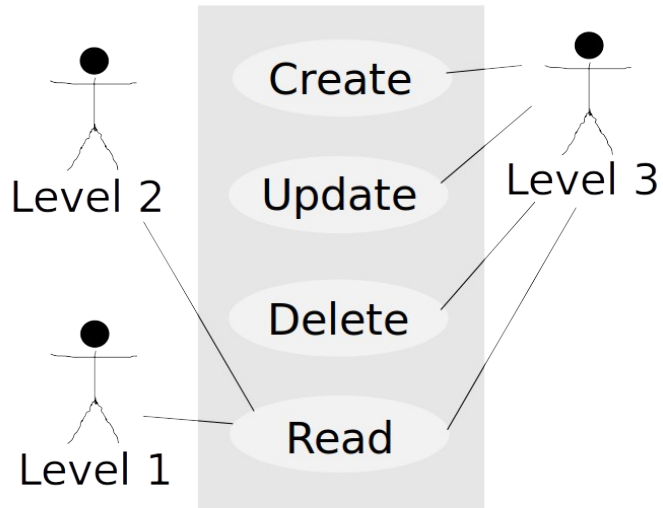
Module Name	Module 6 - Municipality
Rationale	This stores the specific Philippine town, city or municipality for a specific region info like "Cebu City", "Maasin", "Aguilar", "Polangui" and "Legazpi City"
Access and Capabilities	Only the Level 3 user has full access to read, insert, update and delete records of the User table, Level 1 and 2 only have read access



Use Cases Diagram	
Database Schema	<ul style="list-style-type: none">• id serial primary key,• townmunicipalityname varchar(24) not null,• distdivid integer references distdiv(id) on delete restrict,• creationdate timestamptz not null

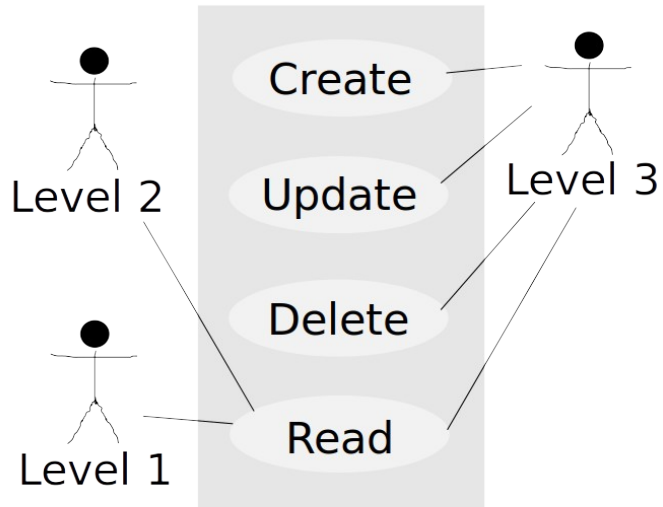
Module Name	Module 7 - Barangay
Rationale	This stores the specific barangay in a specific district or division like "Central Signal Village", "Upper Bicutan" or "San Lorenzo"
Access and Capabilities	Only the Level 3 user has full access to read, insert, update and delete records of the User table, Level 1 and 2 only have read access



Use Cases Diagram	
Database Schema	<ul style="list-style-type: none">• id serial primary key,• barangayname varchar(24) not null,• municipalityid integer references municipality(id) on delete restrict,• creationdate timestamptz not null

Module Name	Module 8 - Government Agency Class
Rationale	<p>This stores the classification of the government agency as follows:</p> <ul style="list-style-type: none">• National Government Agency (NGA)• Attached Agency• Constitutional Office• Government Owned/Controlled Corporations (GOCC)• State Universities and Colleges (SUC)• Local Water District (LWD)• Local Government Unit (LGU)
Access and Capabilities	Only the Level 3 user has full access to read, insert, update and delete records of the GovernmentAgencyClass table, Level 1 and 2 only have read access



Use Cases Diagram	
Database Schema	<ul style="list-style-type: none">• id serial primary key,• agencyclassdesc varchar(32) not null,• creationdate timestamptz not null

Module Name	Module 9 - Government Agency
Rationale	This stores the government specific records like “Office of the President”, “Provincial Government”, “PAGCOR”, please refer to Appendix A for the more comprehensive list of government agencies and their corresponding agency classification
Access and Capabilities	Only the Level 3 user has full access to read, insert, update and delete records of the GovernmentAgency table, Level 1 and 2 only have read access



Use Cases Diagram	<pre>graph LR subgraph Users L1((Level 1)) L2((Level 2)) L3((Level 3)) end subgraph UseCases Create(Create) Update(Update) Delete(Delete) Read(Read) end L1 --- Read L2 --- Read L2 --- Update L3 --- Create L3 --- Update L3 --- Delete L3 --- Read</pre>
Database Schema	<ul style="list-style-type: none">• id serial primary key,• agencyname varchar(32) not null,• govtagencyclassid integer references govtagencyclass(id) on delete restrict,• creationdate timestamptz not null

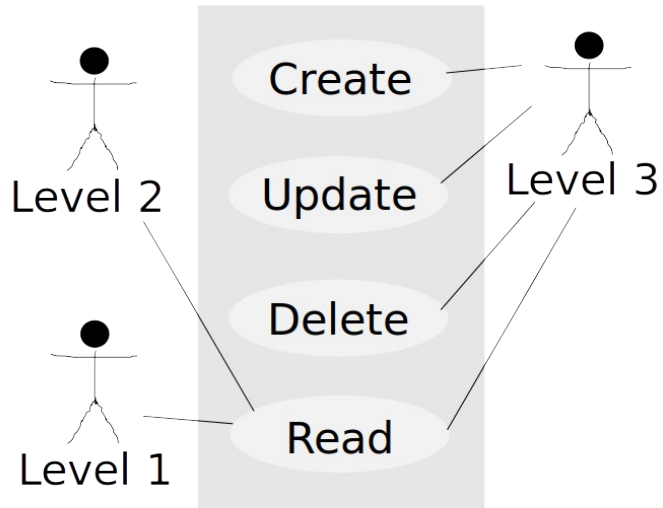
Module Name	Module 10 - Agency-Region-Provincial-District-Municipality-Barangay
Rationale	This defines the agency, region, provincial, district/division, municipality, and/or barangay affiliation of a Government Agency authorized representative as a user of the system
Access and Capabilities	Only the Level 3 user has full access to read, insert, update and delete records of this module, Level 2 has read, insert and update capability with required approval from Level 3, Level 1 only has read access.



Use Cases Diagram	<pre>graph TD L1((Level 1)) --- R(Read) L2((Level 2)) --- R L2 --- U(Update) L2 --- D(Delete) L3((Level 3)) --- C(Create) L3 --- U L3 --- D L3 --- R</pre>
Database Schema	<ul style="list-style-type: none">• id serial primary key,• govtagencyid integer references govtagency(id) on delete restrict,• regionid integer default null references region(id) on delete restrict,• provinceid integer default null references province(id) on delete restrict,• distdivid integer default null references distdiv(id) on delete restrict,• municipalityid integer default null references municipality(id) on delete restrict,• barangayid integer default null references barangay(id) on delete restrict,• creationdate timestamptz not null

Module Name	Module 11 - User
Rationale	This stores the user-specific data, as required by the Database Concept paper, including "Username" and "Password"
Access and Capabilities	Only the Level 3 user has full access to read, insert, update and delete records of the User table, Level 1 and 2 only have read access



Use Cases Diagram	
Database Schema	<ul style="list-style-type: none">• id serial primary key,• lastname varchar(64) not null,• firstname varchar(64) not null,• midname varchar(64) not null,• extname varchar(15) not null,• positionid integer references position(id) on delete restrict,• organizationaffiliation varchar(128) default null,• agencyregprovdistdivmunicipalitybrgyid integer references agencyregprovdistdivmunicipalitybrgy(id) on delete restrict,• username varchar(20) not null,• password varchar(32) not null,• userlevelid integer default 0 references userlevel(id) on delete restrict check(userlevelid < 3),• createdby integer default null references systemuser(id) on delete restrict,• creationdate timestamptz not null

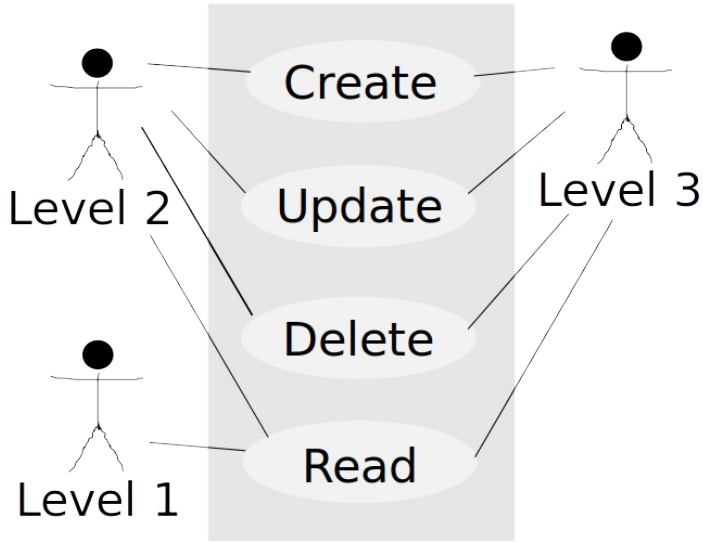
Module Name	Module 12 - Certification
Rationale	This stores the specific certification like "ISO 9001:2015" or "ISO 14001:2018"
Access and Capabilities	Only the Level 3 user has full access to read, insert, update and delete records of the Certification table, Level 1 and 2 only have read access



Use Cases Diagram	<pre>graph LR subgraph UseCases [] Create Update Delete Read end Level1((Level 1)) --- Read Level2((Level 2)) --- Read Level2 --- Update Level3((Level 3)) --- Create Level3 --- Update Level3 --- Delete Level3 --- Read</pre>
Database Schema	<ul style="list-style-type: none">• id serial primary key,• certificationstandard varchar(32) not null,• createdby integer default null references systemuser(id) on delete restrict,• creationdate timestamptz not null

Module Name	Module 13 - Certifying Body
Rationale	This stores the specific certifying body info like "SGS Thompson" and "TUV Rheinland"
Access and Capabilities	Only the Level 3 user has full access to read, insert, update and delete records of the Certifying Body, Level 2 can read, insert, update and delete non-pub accredited certifying body with required approval from Level 3 users, Level 1 only have read access



Use Cases Diagram	
Database Schema	<ul style="list-style-type: none">• id serial primary key,• ispubaccredited boolean default false,• providerorg varchar(32) not null,• createdby integer default null references systemuser(id) on delete restrict,• creationdate timestamptz not null

Module Name	Module 14 - Agency Certification
Rationale	This stores the specific certification record of each government agency, indicating the validity and also who and when this was encoded for audit trail.
Access and Capabilities	Only the Level 3 user has full access to read, insert, update and delete records of the Agency Certification table, Level 2 user has capability to read, insert and update records only for their corresponding government agency, and may be specific to particular region, provincial, district/division, municipality and/or barangay subject to approval from Level 3 user, Level 1 only have read access



Use Cases Diagram	<pre>graph TD L1((Level 1)) --- R([Read]) L1 --- D([Delete]) L2((Level 2)) --- C([Create]) L2 --- U([Update]) L2 --- D2([Delete]) L3((Level 3)) --- C2([Create]) L3 --- U2([Update]) L3 --- D3([Delete])</pre>
Database Schema	<ul style="list-style-type: none">• id serial primary key,• govtagencyid integer references govtagency(id) on delete restrict,• certifyingbodyid integer references certifyingbody(id) on delete restrict,• certificationid integer references certification(id) on delete restrict,• certificationregnumber varchar(16) not null,• certificationscope text not null,• scope_ispartial boolean default null,• provinceid integer default null references province(id) on delete restrict,• distdivid integer default null references distdiv(id) on delete restrict,• municipalityid integer default null references municipality(id) on delete restrict,• barangayid integer default null references barangay(id) on delete restrict,• certvalidstartdate date not null,• certvalidenddate date not null,• isapproved boolean default false,• approvedby integer default null references systemuser(id) on delete restrict,• approveddate timestamptz default null,• createdby integer default null references systemuser(id) on delete restrict,• creationdate timestamptz not null

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