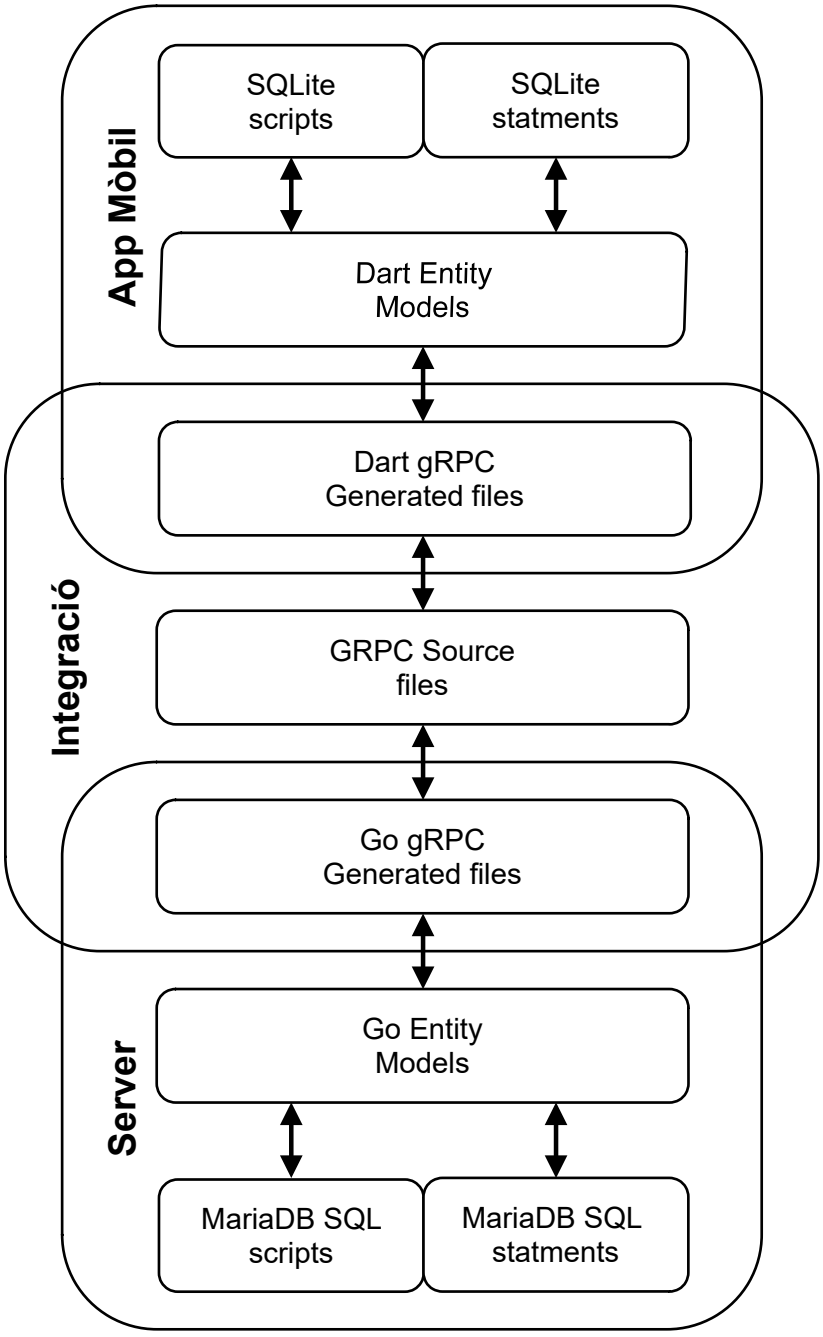
Plataforma Sabina

Model de Dades - Implementació

versió 0.7.2

2024-09-07 ds



Contingut

Implementació del Model de Dades

El propòsit d'aquest document és documentar com les diferents entitats de dades son implementats dins els diferents subsistemes que existeixen al projecte.

Els subsistemes del projecte són:

Servidor

El subsistema **Servidor** és el nucli de la plataforma on s'enregistren i gestionen totes les dades consolidades.

Aquest subsistema s'implementa en un host *Linux* (família i versió per acabar de determinar segons les necessitats), en llenguatge *Golang*, fent servir un DBSM *MariaDB v11.5.2 Rolling*.

APP mòbil

El subsistema **App** és la interfície d'accés a la plataforma de tots els tipus d'usuari.

Aquest subsistema s'implementa en *Flutter* (versió per determinar) per a totes les plataformes mòbils (Android i iOS), fent servir un DBSM local SQLite (a través del paquet Dart *sqflite_common: ^2.5.4+2*).

Integració

El subsistema d'**Integració** s'encarrega de la comunicació de dades segura entre els dispositius mòbils i el servidor.

Per a generalitzar el model de base de dades dins aquest subsistema s'utilitza *gRPC* (Google Remote Procedure Call).

Tot i que la plataforma Sabina es recolza sobre la plataforma *Firebase* de Google, no s'emmagatzema cap dada al seu sistema d'emmagatzemament en el núvol.

Diagrama lògic

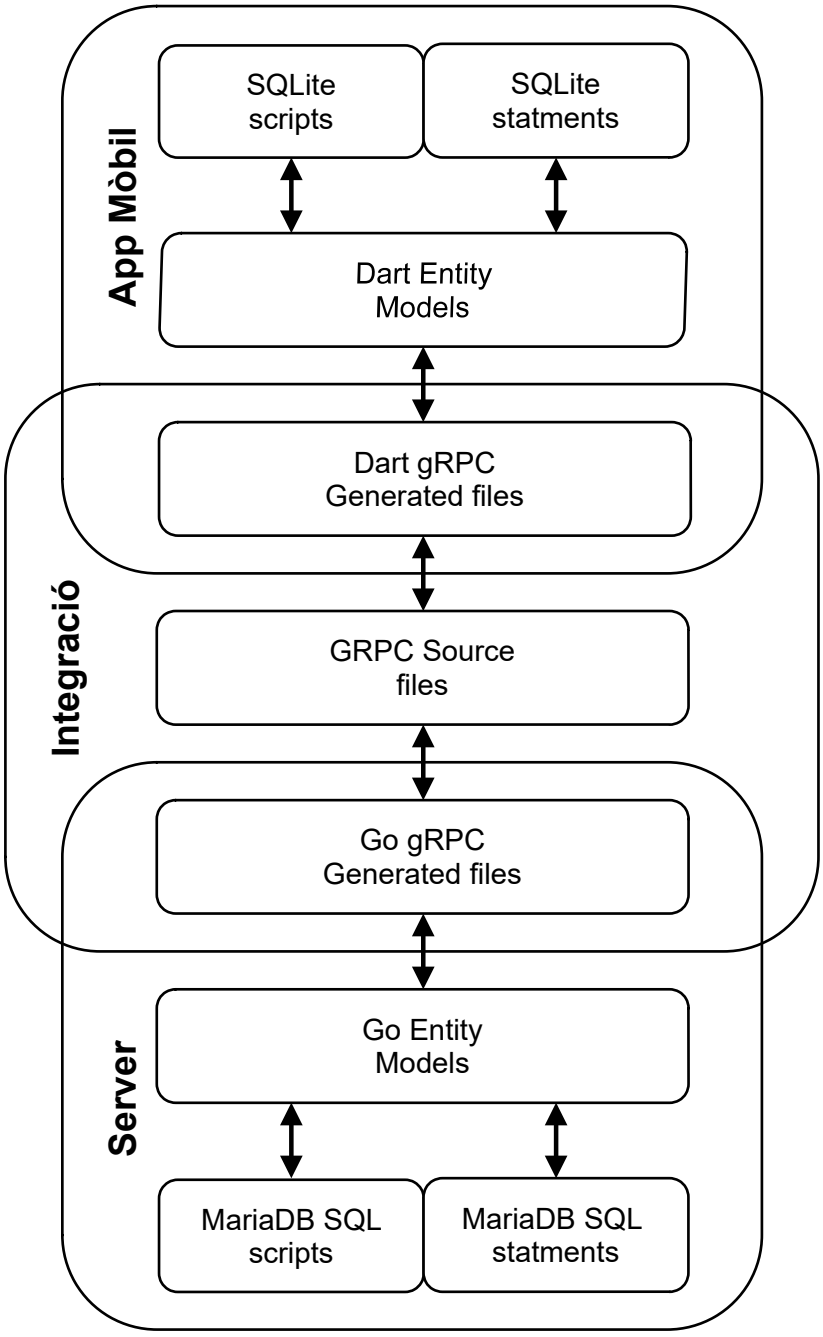


Diagrama 1: Implementació del Model de Dades

1 Estructures Auxiliars

Les properes definicions proveeixen les diferents vistes de cada entitat del model de dades segons els subsistemes.

En les definicions la majoria de les entitats faran servir una subentitat anomenada *BaseEntity* (en Integració), *ModelEntity* (en Flutter) i *GoBaseEntity (en* Go*)*. Aquesta subentitat és un mecanisme de compactació de la descripció del model útil perquè la gran majoria de les entitats comparteixen un conjunt de propietats que es poden abstreure:

```
// Proto3
message BaseEntity {
    optional string    local_key = 1;
    optional string    server_key = 2;
    uint32             created_by = 3;
    Timestamp          created_at = 4;
    optional uint32    updated_by = 5;
    optional Timestamp updated_at = 6;
    bool               is_new = 7;
    bool               is_updated = 8;
    bool               is_deleted = 9;
}
```

```
// Flutter
abstract class ModelEntity {
    late CoreEntity _core;
}

class CoreEntity {
    late int?      _localId;
    late int?      _id;
    late UsrUser?  _createdBy;
    late DateTime? _createdAt;
    late UsrUser?  _updatedBy;
    late DateTime? _updatedAt;
    late bool      _isNew;
    late bool      _isUpdated;
    late bool      _isDeleted;
}
```

```
// Golang
type GoBaseEntity struct {
    GoEntity
    LocalId       *uint32
    ServerId      *uint32
    CreatedBy     uint32
    CreatedAt     dt.Time
    UpdatedBy     *uint32
    UpdatedAt     *dt.Time
    InstIsNew     bool
    InstIsUpdated bool
    InstIsDeleted bool
}
```

2 Mòdul USRMOD

2.1 Entitat USER

2.1.1 Proto3

```
message UsrUser {
    BaseEntity         base_entity = 1;
    UsrUserType        user_type = 2;
    UsrUserState       state = 3;
    uint64             permissions = 4;
    string             alias = 5;
    optional bytes     certificate = 6;
    optional Timestamp birth_date = 7;
    optional uint64    first_key = 8;
    optional Timestamp first_conn_at = 9;
    string             locale = 10;
    optional uint32    therapist_id = 11;
}
```

2.1.2 Flutter

```
enum UserType {
    unspecified,
    root,
    admin,
    patient,
    therapist,
}
```

```
enum UserState {
    unspecified,
    building,
    active,
    locked,
}
```

```
class UsrUser extends ModelEntity {
    UserType   _usrType = UserType.unspecified;
    UserState  _usrState = UserState.unspecified;
    Uint64     _permissions = 0 as Uint64;
    String?    _alias;
    Uint8List? _certificate;
    DateTime?  _birthDate;
    Uint64?    _firstConnKey;
    DateTime?  _firstConnAt;
    UsrDevice? _device;
    UsrUser?   _therapist;
    Locale     _locale = localeES;
}
```

2.1.3 Golang

```
type UserType int
const (
    User_type_unspecified UserType = 0
    User_type_root        UserType = 1
    User_type_admin       UserType = 2
    User_type_patient     UserType = 3
    User_type_therapist   UserType = 4
)
```

```
type UserState int
const (
    User_state_unspecified UserState = 0
    User_state_building    UserState = 1
    User_state_active      UserState = 2
    User_state_locked      UserState = 3
)
```

```
type UsrUser struct {
    Entity        GoBaseEntity
    GoProto
    GoSQL
    UType         UserType
    State         UserState
    Permissions   uint64
    Alias         string
    Certificate   *x509.Certificate
    BirthDate     *dt.Time
    FirstConnPKey *uint64
    FirstConnAt   *dt.Time
    Device        *UsrDevice
    TherapistId   *uint32
    Locale        LocLocale
}
```

2.1.4 SQLite

```
CREATE TABLE $tnUsrUser (
    $standardHeader,
    $fldUserType     $dbtIntNotNull,
    $fldUserState    $dbtIntNotNull,
    $fldPermissions  $dbtIntNotNull DEFAULT 0,
    $fldAlias        $dbtTextNotNull,
    $fldCertificate  $dbtText,
    $fldBirthDate    $dbtDateTime,
    $fldFirstConnKey $dbtInt,
    $fldFirstConnAt  $dbtDateTime,
    $fldLocaleCode   $dbtTextNotNull DEFAULT "es",
    $fldTherapist    $dbtInt REFERENCES $tnUsrUser($fldId)
);
ALTER TABLE $tnUsrUser ADD COLUMN $fldDevice $dbtInt REFERENCES $tnUsrDevice($fldId);
```

2.1.5 MariaDB

```
CREATE TABLE USER (
    ID            INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY    INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT    DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY    INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT    DATETIME,
    USER_TYPE     INT UNSIGNED NOT NULL,
    USER_STATE    INT UNSIGNED NOT NULL,
    PERMISSIONS   INT UNSIGNED NOT NULL DEFAULT 0,
    ALIAS         VARCHAR(100) NOT NULL,
    CERTIFICATE   BLOB,
    BIRTH_DATE    DATE,
    FIRST_KEY     INT,
    FIRST_CONN_AT DATETIME,
    LOCALE_CODE   VARCHAR(2) NOT NULL DEFAULT @loc_esid,
    THERAPIST_ID  INT UNSIGNED REFERENCES USER(ID),
    INDEX (CREATED_BY)
) ENGINE = InnoDB;
ALTER TABLE USER[1] ADD COLUMN DEVICE_ID INT UNSIGNED REFERENCES DEVICE(ID);
```

1 Donat que les instàncies d'USER i DEVICE estableixen una referència creuada, primer es crea la taula USER, després es crea la taula DEVICE i després s'afegeix la referència al dispositiu a la taula d'usuari.

2.2 Entitat DEVICE

2.2.1 Proto3

```
message UsrDevice {
    BaseEntity      base_entity = 1;
    UsrDeviceType   type = 2;
    UsrDeviceState  state = 3;
    optional string token = 4;
    uint32          owner = 5;
}
```

2.2.2 Flutter

```
enum DeviceType {
    unspecified,
    androidMobile,
    androidTablet,
    iOSMobile,
    iOSTablet,
    windows,
    macOS,
    linux,
}
```

```
enum DeviceState {
    unspecified,
    enabled,
    disabled,
}
```

```
class UsrDevice extends ModelEntity {
    DeviceType  _devType = DeviceType.unspecified;
    DeviceState _devState = DeviceState.unspecified;
    String?     _token;
    UsrUser?    _owner;
}
```

2.2.3 Golang

```
type DeviceType int
const (
    device_type_unspecified   DeviceType = 0
    device_type_mobileAndroid DeviceType = 100
    device_type_mobileIOS     DeviceType = 200
    device_type_tabledAndroid DeviceType = 300
    device_type_tabletIOS     DeviceType = 400
    device_type_windows       DeviceType = 500
    device_type_macos         DeviceType = 600
    device_type_linux         DeviceType = 700
)
```

```
type DeviceState int
const (
    device_state_unspecified DeviceState = 0
    device_state_enabled     DeviceState = 100
    device_state_disabled    DeviceState = 200
)
```

```
type UsrDevice struct {
    Entity   GoBaseEntity
    GoProto
    GoSQL
    DType    DeviceType
    State    DeviceState
    FcmToken *string
    Owner    uint32
}
```

2.2.4 SQLite

```
CREATE TABLE $tnUsrDevice (
    $standardHeader,
    $fldDeviceType  $dbtIntNotNull,
    $fldDeviceState $dbtIntNotNull,
    $fldToken       $dbtTextNotNullUnique,
    $fldOwner       $dbtInt REFERENCES $tnUsrUser($fldId)
);
```

2.2.5 MariaDB

```
CREATE TABLE DEVICE (
    ID           INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY   INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT   DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY   INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT   DATETIME,
    DEVICE_TYPE  INT UNSIGNED NOT NULL,
    DEVICE_STATE INT UNSIGNED NOT NULL,
    FCM_TOKEN    VARCHAR(2048),
    OWNER_ID     INT UNSIGNED NOT NULL REFERENCES USER(ID)
) ENGINE = InnoDB;
```

2.3 Entitat FCM_HISTORY

2.3.1 Proto3

```
message UsrFcmHistory {
    BaseEntity base_entity = 1;
    string     token = 2;
    UsrDevice  device = 3;
    optional   Timestamp since = 4;
    bool       last_one = 5;
}
```

2.3.2 Flutter

```
class UsrFcmHistory extends ModelEntity {
    String?    _fcmToken;
    UsrDevice? _device;
    DateTime?  _since;
    bool       _lastOne = false;
}
```

2.3.3 Golang

```
type UsrFcmHistory struct {
    Entity    GoBaseEntity
    GoProto
    GoSQL
    FcmToken  *string
    Device    UsrDevice
    Since     *dt.Time
    IsCurrent bool
    Owner     UsrUser
}
```

2.3.4 SQLite

```
CREATE TABLE $tnUsrFcmHistory (
    $standardHeader,
    $fldToken   $dbtTextNotNull UNIQUE,
    $fldSince   $dbtDateTimeNotNull,
    $fldLastOne $dbtIntNotNull DEFAULT 0,
    $fldDevice  $dbtInt REFERENCES $tnUsrDevice($fldId)
);
```

2.3.5 MariaDB

```
CREATE TABLE FCM_HISTORY (
    ID         INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT DATETIME,
    FCM_TOKEN  VARCHAR(2048) NOT NULL,
    DEVICE_ID  INT UNSIGNED NOT NULL REFERENCES DEVICE(ID),
    SINCE      DATETIME,
    LAST_ONE   BOOLEAN NOT NULL DEFAULT FALSE
) ENGINE = InnoDB;
```

3 Mòdul DISMOD

3.1 Entitat DSM_V

Aquesta entitat es diferencia de la resta en que és un magatzem estàtic de dades. Per aquesta raó no disposa dels camps de registre sobre creació i actualització.

3.1.1 Proto3

```
message DisDsmV {
    int32  id = 1;
    string name = 2;
    string icd10 = 3;
}
```

3.1.2 Flutter

```
class DisDsmV extends ModelEntity {
    late String? _name;
    late String? _icd10;
}
```

3.1.3 Golang

PENDENT

3.1.4 SQLite

```
CREATE TABLE $tnDisDsmV (
    $fldIdLocal $dbtIntID,
    $fldId      $dbtIntNotNullUnique,
    $fldName    $dbtTextNotNullUnique,
    $fldIcd10   $dbtTextNotNull
);
```

3.1.5 MariaDB

```
CREATE TABLE DSM_V (
    ID INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    DNAME  VARCHAR(400) NOT NULL,
    CIE_10 VARCHAR(20) NOT NULL,
    FULLTEXT (DNAME),
    FULLTEXT (CIE_10)
) ENGINE = InnoDB;
```

3.2 Entitat DISEASE

3.2.1 Proto3

```
message DisDisease {
    BaseEntity      base_entity = 1;
    string          name_key = 2;
    optional string desc_key = 3;
    DisDsmV         dsmv = 4;
    UsrUser         theraphist = 5;
}
```

3.2.2 Flutter

```
class DisDisease extends ModelEntity {
    String?  _nameKey;
    String?  _name;
    String?  _descKey;
    String?  _desc;
    DisDsmV? _dsmV;
    UsrUser? _therapist;
}
```

3.2.3 Golang

PENDENT

3.2.4 SQLite

```
CREATE TABLE $tnDisDisease (
    $standardHeader,
    $fldNameKey   $dbtTextNotNullUnique,
    $fldDescKey   $dbtTextNotNull,
    $fldDsmV      $dbtIntNotNull REFERENCES $tnDisDsmV($fldId),
    $fldTherapist $dbtIntNotNull REFERENCES $tnUsrUser($fldId)
);
```

3.2.5 MariaDB

```
CREATE TABLE DISEASE (
    ID              INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY      INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT      DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY      INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT      DATETIME,
    NAME_KEY        VARCHAR(100) NOT NULL,
    DESCRIPTION_KEY VARCHAR(100),
    DSM_V           INT UNSIGNED NOT NULL REFERENCES DSM_V(ID),
    THERAPIST       INT UNSIGNED NOT NULL REFERENCES USER(ID),
    INDEX (DSM_V)
) ENGINE = InnoDB;
```

3.3 Entitat PHASE

3.3.1 Proto3

```
message DisPhase {
    BaseEntity      base_entity = 1;
    int32           idx = 2;
    string          name_key = 3;
    optional string desc_key = 5;
    DisDisease      disease = 4;
}
```

3.3.2 Flutter

```
class DisPhase extends ModelEntity {
    int?        _idx;
    String?     _nameKey;
    String?     _name;
    String?     _descKey;
    String?     _desc;
    DisDisease? _disease;
```

```
}
```

3.3.3 Golang

PENDENT

3.3.4 SQLite

```
CREATE TABLE $tnDisPhase (
    $standardHeader,
    $fldIdx     $dbtIntNotNull,
    $fldNameKey $dbtTextNotNull,
    $fldDescKey $dbtTextNotNull,
    $fldDisease $dbtIntNotNull REFERENCES $tnDisDisease($fldId)
);
```

3.3.5 MariaDB

```
CREATE TABLE PHASE (
    ID              INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY      INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT      DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY      INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT      DATETIME,
    IDX             INT UNSIGNED NOT NULL,
    NAME_KEY        VARCHAR(100) NOT NULL,
    DESCRIPTION_KEY VARCHAR(100),
    DISEASE_ID      INT UNSIGNED NOT NULL REFERENCES DISEASE(ID),
    INDEX (DISEASE_ID, IDX)
) ENGINE = InnoDB;
```

3.4 Entitat GOAL

3.4.1 Proto3

```
message DisGoal {
    BaseEntity      base_entity = 1;
    int32           idx = 2;
    string          name_key = 3;
    optional string desc_key = 5;
    DisPhase        phase = 4;
}
```

3.4.2 Flutter

```
class DisGoal extends ModelEntity {
    int?      _idx;
    String?   _nameKey;
    String?   _name;
    String?   _descKey;
    String?   _desc;
    DisPhase? _phase;
}
```

3.4.3 Golang

PENDENT

3.4.4 SQLite

```
CREATE TABLE $tnDisGoal (
    $standardHeader,
    $fldIdx          $dbtIntNotNull,
    $fldNameKey      $dbtTextNotNull,
    $fldDescKey      $dbtTextNotNull,
    $fldDiseasePhase $dbtIntNotNull REFERENCES $tnDisPhase($fldId)
);
```

3.4.5 MariaDB

```
CREATE TABLE GOAL (
    ID         INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT DATETIME,
    IDX        INT UNSIGNED NOT NULL,
    NAME_KEY   VARCHAR(100) NOT NULL,
    DESC_KEY   VARCHAR(100),
    PHASE_ID   INT UNSIGNED NOT NULL REFERENCES PHASE(ID),
    INDEX (PHASE_ID, IDX)
) ENGINE = InnoDB;
```

4 Mòdul EMOMOD

4.1 Entitat EMOTION

4.1.1 Proto3

```
message EmoEmotion {
    BaseEntity          base_entity = 1;
    string              name_key = 2;
    optional string     desc_key = 3;
    optional EmoEmotion parent = 4;
    int32               value = 5;
}
```

4.1.2 Flutter

```
class EmoEmotion extends ModelEntity {
    String?     _nameKey;
    String?     _name;
    String?     _descKey;
    String?     _desc;
    EmoEmotion? _parent;
    int?        _value;
}
```

4.1.3 Golang

PENDENT

4.1.4 SQLite

```
CREATE TABLE $tnEmoEmotion (
      $standardHeader,
      $fldNameKey $dbtTextNotNull,
      $fldDescKey $dbtText,
      $fldParent  $dbtInt REFERENCES $tnEmoEmotion($fldId),
      $fldValue   $dbtIntNotNull DEFAULT 0
);
```

4.1.5 MariaDB

```
CREATE TABLE EMOTION (
    ID         INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT DATETIME,
    NAME_KEY   VARCHAR(100) NOT NULL,
    DESC_KEY   VARCHAR(100),
    PARENT_ID  INT UNSIGNED REFERENCES EMOTION(ID),
    VALUE      INT UNSIGNED NOT NULL
) ENGINE = InnoDB;
```

4.2 Entitat MOOD

4.2.1 Proto3

```
message EmoMood {
    BaseEntity      base_entity = 1;
    string          name_key = 2;
    optional string desc_key = 3;
    int32           value = 4;
}
```

4.2.2 Flutter

```
class EmoMood extends ModelEntity {
    String? _nameKey;
    String? _name;
    String? _descKey;
    String? _desc;
    int?    _value;
}
```

4.2.3 Golang

PENDENT

4.2.4 SQLite

```
CREATE TABLE $tnEmoMood (
    $standardHeader,
    $fldNameKey $dbtTextNotNull,
    $fldDescKey $dbtTextNotNull,
    $fldValue   $dbtIntNotNull DEFAULT 0
);
```

4.2.5 MariaDB

```
CREATE TABLE MOOD (
    ID         INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT DATETIME,
    NAME_KEY   VARCHAR(100) NOT NULL,
    DESCKEY    VARCHAR(100),
    VALUE      INT UNSIGNED NOT NULL DEFAULT 0
) ENGINE = InnoDB;
```

5 Mòdul RSCMOD

5.1 Entitat RESOURCE

5.1.1 Proto3

```
message ResResource {
    a_user.usrmod.BaseEntity            base_entity = 1;
    string                              name_key = 2;
    optional string                     desc_key = 3;
    int32                               version = 4;
    ResResource                         root_id = 5;
    string                              locale_code = 6;
    b_definitions.resmod.ResResourceType resource_type = 7;
    optional string                     inline_text = 8;
    optional string                     link = 9;
}
```

5.1.2 Flutter

```
enum ResourceType {
    unspecified,
    plainText,
    richText,
    image,
    audio,
    video,
}

class RscResource extends ModelEntity {
    String?      _nameKey;
    String?      _name;
    String?      _descKey;
    String?      _desc;
    int          _vers = 0;
    RscResource? _root;
    Locale       _locale = localeES;
    ResourceType _type = ResourceType.unspecified;
    String?      _inlineText;
    String?      _link;
}
```

5.1.3 Golang

PENDENT

5.1.4 SQLite

```
CREATE TABLE $tnRscResource (
    $standardHeader,
    $fldNameKey      $dbtTextNotNull,
    $fldDescKey      $dbtTextNotNull,
    $fldVersion      $dbtIntNotNull,
    $fldRoot         $dbtInt REFERENCES $tnRscResource($fldId),
    $fldLocaleCode   $dbtTextNotNull,
    $fldResourceType $dbtIntNotNull,
    $fldInlineText   $dbtText,
    $fldLink         $dbtText
);
```

5.1.5 MariaDB

```
CREATE TABLE RESOURCE (
    ID            INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY    INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT    DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY    INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT    DATETIME,
    NAME_KEY      VARCHAR(100) NOT NULL,
    DESC_KEY      VARCHAR(100),
    VERSION       INT UNSIGNED NOT NULL,
    ROOT_ID       INT UNSIGNED REFERENCES RESOURCE(ID),
    LOCALE_CODE   VARCHAR(2) NOT NULL,
    RESOURCE_TYPE INT UNSIGNED NOT NULL,
    INLINE_TEXT   VARCHAR(10000),
    LINK          VARCHAR(4096)
) ENGINE = InnoDB;
```

5.2 Entitat PHASE_RESOURCE

5.2.1 Proto3

```
message ResPhaseResource {
    a_user.usrmod.BaseEntity               base_entity = 1;
    b_definitions.dismod.DisDisease        disease = 2;
    optional b_definitions.dismod.DisPhase phase = 3;
    ResResource                            resource = 4;
}
```

5.2.2 Flutter

```
class RscPhaseResource extends ModelEntity {
    DisDisease?  _disease;
    DisPhase?    _phase;
    RscResource? _resource;
}
```

5.2.3 Golang

5.2.4 SQLite

```
CREATE TABLE $tnRscPhaseResource (
    $standardHeader,
    $fldDisease      $dbtIntNotNull REFERENCES $tnDisDisease($fldId),
    $fldDiseasePhase $dbtInt REFERENCES $tnDisPhase($fldId),
    $fldResource     $dbtIntNotNull REFERENCES $tnRscResource($fldId)
);
```

5.2.5 MariaDB

```
CREATE TABLE PHASE_RESOURCE (
    ID          INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY  INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT  DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY  INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT  DATETIME,
    DISEASE_ID  INT UNSIGNED NOT NULL REFERENCES DISEASE(ID),
    PHASE_ID    INT UNSIGNED REFERENCES PHASE(ID),
    RESOURCE_ID INT UNSIGNED NOT NULL REFERENCES RESOURCE(ID)
) ENGINE = InnoDB;
```

6 Mòdul TCKMOD

6.1 Entitat TRACKING

6.1.1 Proto3

```
message TckTracking {
    BaseEntity           base_entity = 1;
    string               name_key = 2;
    optional string      desc_key = 3;
    int32                version = 4;
    UsrUser              therapist = 5;
    optional TckTracking root = 6;
}
```

6.1.2 Flutter

```
class TckTracking extends ModelEntity {
    String?      _nameKey;
    String?      _name;
    String?      _descKey;
    String?      _desc;
    int          _vers = 0;
    UsrUser?     _therapist;
    TckTracking? _root;
}
```

6.1.3 Golang

PENDENT

6.1.4 SQLite

```
CREATE TABLE $tnTckTracking (
    $standardHeader,
    $fldNameKey   $dbtTextNotNull,
    $fldDescKey   $dbtTextNotNull,
    $fldVersion   $dbtIntNotNull DEFAULT 0,
    $fldTherapist $dbtIntNotNull REFERENCES $tnUsrUser($fldId),
    $fldRoot      $dbtIntNotNull REFERENCES $tnTckTracking($fldId),
);
```

6.1.5 MariaDB

```
CREATE TABLE TRACKING (
    ID           INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY   INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT   DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY   INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT   DATETIME,
    NAME_KEY     VARCHAR(100) NOT NULL,
    DESC_KEY     VARCHAR(100),
    VERSION      INT UNSIGNED NOT NULL,
    THERAPIST_ID INT UNSIGNED NOT NULL REFERENCES USER(ID),
    ROOT_ID      INT UNSIGNED REFERENCES TRACKING(ID)
) ENGINE = InnoDB;
```

6.2 Entitat PHASE_TRACKING

6.2.1 Proto3

```
message TckPhaseTracking {
    BaseEntity  base_entity = 1;
    DisPhase    phase = 2;
    TckTracking tracking = 3;
}
```

6.2.2 Flutter

```
class TckPhaseTracking extends ModelEntity {
    DisPhase?    _phase;
    TckTracking? _tracking;
}
```

6.2.3 Golang

PENDENT

6.2.4 SQLite

```
CREATE TABLE $tnTckPhaseTracking (
    $standardHeader,
    $fldDiseasePhase $dbtIntNotNull REFERENCES $tnDisPhase($fldId),
    $fldTracking     $dbtIntNotNull REFERENCES $tnTckTracking($fldId)
);
```

6.2.5 MariaDB

```
CREATE TABLE PHASE_TRACKING (
    ID          INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY  INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT  DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY  INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT  DATETIME,
    PHASE_ID    INT UNSIGNED NOT NULL REFERENCES PHASE(ID),
    TRACKING_ID INT UNSIGNED NOT NULL REFERENCES TRACKING(ID)
) ENGINE = InnoDB;
```

6.3 Entitat TRACKING_COLUMN

6.3.1 Proto3

```
message TckTrackingColumn {
    BaseEntity             base_entity = 1;
    TckTracking            tracking = 2;
    optional LstOptionList list = 3;
    string                 title_key = 4;
    TckTrackingColumnType  track_column_type = 5;
    bool                   mandatory = 6;
    bool                   custom = 7;
}
```

6.3.2 Flutter

```
enum TrackingColumnType {
    unspecified,
    plainText,
    boolean,
    list,
    emotion,
    mood,
    date,
    time,
    dateTime,
}

class TckTrackingColumn extends ModelEntity {
  TckTracking?       _tracking;
  LstOptionList?     _list;
  String?            _titleKey;
  String?            _title;
  TrackingColumnType _type = TrackingColumnType.unspecified;
  bool               _mandatory = false;
  bool               _custom = false;
}
```

6.3.3 Golang

PENDENT

6.3.4 SQLite

```
CREATE TABLE $tnTckTrackingColumn (
    $standardHeader,
    $fldTracking           $dbtIntNotNull REFERENCES $tnTckTracking($fldId),
    $fldList               $dbtInt REFERENCES $tnLstOptionList($fldId),
    $fldTitleKey           $dbtTextNotNull,
    $fldTrackingColumnType $dbtIntNotNull,
    $fldMandatory          $dbtBooleanNotNull,
    $fldCustom             $dbtBooleanNotNull
);
```

6.3.5 MariaDB

```
CREATE TABLE TRACKING_COLUMN (
    ID          INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY  INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT  DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY  INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT  DATETIME,
    TRACKING_ID INT UNSIGNED NOT NULL REFERENCES TRACKING(ID),
    LIST_ID     INT UNSIGNED REFERENCES OPTION_LIST(ID),
    TITLE       VARCHAR(100) NOT NULL,
    COLUMN_TYPE INT UNSIGNED NOT NULL,
    MANDATORY   BOOLEAN NOT NULL DEFAULT TRUE,
    CUSTOMIZED  BOOLEAN NOT NULL DEFAULT FALSE
) ENGINE = InnoDB;
```

7 Mòdul TSTMOD

7.1 Entitat TEST_CATEGORY

7.1.1 Proto3

```
message TstTestCategory {
    BaseEntity               base_entity = 1;
    string                   title_key = 2;
    optional string          desc_key = 3;
    optional TstTestCategory parent = 4;
}
```

7.1.2 Flutter

```
class TstTestCategory extends ModelEntity {
  String? _titleKey;
  String? _title;
  String? _descKey;
  String? _desc;
  TstTestCategory? _parent;
}
```

7.1.3 Golang

PENDENT

7.1.4 SQLite

```
CREATE TABLE $tnTstTestCategory (
    $standardHeader,
    $fldTitleKey $dbtTextNotNullUnique,
    $fldDescKey  $dbtText,
    $fldParent   $dbtInt REFERENCES $tnTstTestCategory($fldId)
);
```

7.1.5 MariaDB

```
CREATE TABLE TEST_CATEGORY (
    ID         INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT DATETIME,
    TITLE_KEY  VARCHAR(100) NOT NULL,
    DESC_KEY   VARCHAR(100),
    PARENT_ID  INT UNSIGNED REFERENCES TEST_CATEGORY(ID)
) ENGINE = InnoDB;
```

7.2 Entitat TEST

7.2.1 Proto3

```
message TstTest {
    BaseEntity       base_entity = 1;
    TstTestCategory  category = 2;
    string           name_key = 3;
    optional string  desc_key = 4;
    optional string  instr_key = 5;
    int32            version = 6;
```

```
    UsrUser          therapist = 7;
    optional TstTest root = 8;
}
```

7.2.2 Flutter

```
class TstTest extends ModelEntity {
  stTestCategory? _category;
  String?         _nameKey;
  String?         _name;
  String?         _descKey;
  String?         _desc;
  String?         _instrKey;
  String?         _instr;
  int             _vers = 0;
  UsrUser?        _therapist;
  TstTest?        _root;
}
```

7.2.3 Golang

PENDENT

7.2.4 SQLite

```
CREATE TABLE $tnTstTest (
    $standardHeader,
    $fldTestCategory $dbtIntNotNull REFERENCES $tnTstTestCategory($fldId),
    $fldNameKey      $dbtTextNotNull,
    $fldDescKey      $dbtText,
    $fldInstrKey     $dbtText,
    $fldVersion      $dbtIntNotNull,
    $fldRoot         $dbtInt REFERENCES $tnTstTest($fldId),
    $fldTherapist    $dbtIntNotNull REFERENCES $tnUsrUser($fldId),
);
```

7.2.5 MariaDB

```
CREATE TABLE TEST (
    ID           INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY   INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT   DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY   INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT   DATETIME,
    CATEGORY_ID  INT UNSIGNED NOT NULL REFERENCES TEST_CATEGORY(ID),
    NAME_KEY     VARCHAR(100) NOT NULL,
    DESC_KEY     VARCHAR(100),
    INSTRS_KEY   VARCHAR(100),
    VERSION      INT UNSIGNED NOT NULL,
    ROOT_ID      INT UNSIGNED REFERENCES TEST(ID),
    THERAPIST_ID INT UNSIGNED NOT NULL REFERENCES USER(ID)
) ENGINE InnoDB;
```

7.3 Entitat TEST_QUESTION

7.3.1 Proto3

```
message TstQuestion {
    BaseEntity           base_entity = 1;
    TstTest              test = 2;
    TstTestQuestionType  test_question_type = 3;
    optional TstQuestion block = 4;
    string               question = 5;
    optional string      help = 6;
    bool                 mandatory = 7;
    bool                 custom = 8;
}
```

7.3.2 Flutter

```
enum QuestionType {
    unspecified,
    plainText,
    boolean,
    list,
    emotion,
    mood,
    date,
    dateTime,
}

class TstQuestion extends ModelEntity {
    TstTest?     _test;
    QuestionType _type = QuestionType.unspecified;
    TstQuestion? _block;
    String?      _questionKey;
    String?      _question;
    String?      _helpKey;
    String?      _help;
    bool         _mandatory = false;
    bool         _custom = false;
}
```

7.3.3 Golang

PENDENT

7.3.4 SQLite

```
CREATE TABLE $tnTstQuestion (
    $standardHeader,
    $fldTest         $dbtIntNotNull REFERENCES $tnTstTest($fldId),
    $fldQuestionType $dbtIntNotNull,
    $fldBlock        $dbtInt REFERENCES $tnTstTest($fldId),
    $fldQuestionKey  $dbtTextNotNull,
    $fldHelpKey      $dbtText,
    $fldMandatory    $dbtBooleanNotNull DEFAULT FALSE,
    $fldCustom       $dbtBooleanNotNull DEFAULT FALSE
);
```

7.3.5 MariaDB

```
CREATE TABLE QUESTION (
    ID            INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY    INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT    DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY    INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT    DATETIME,
    TEST_ID       INT UNSIGNED NOT NULL REFERENCES TEST(ID),
    QUESTION_TYPE INT UNSIGNED NOT NULL,
    BLOCK_ID      INT UNSIGNED REFERENCES QUESTION(ID),
    QUESTION_KEY  VARCHAR(100) NOT NULL,
    HELP_KEY      VARCHAR(100),
    MANDATORY     BOOLEAN NOT NULL DEFAULT TRUE,
    CUSTOMIZED    BOOLEAN NOT NULL DEFAULT FALSE
) ENGINE = InnoDB;
```

8 Mòdul DGNMOD

8.1 Entitat DIAGNOSIS

8.1.1 Proto3

```
message DgnDiagnosis {
    a_user.usrmod.BaseEntity           base_entity = 1;
    b_definitions.dismod.DisDisease    disease = 2;
    a_user.usrmod.UsrUser              therapist = 3;
    c_working.dgnmod.DgnDiagnosisState diagnosis_state = 4;
    optional string                    annotations = 5;
}
```

8.1.2 Flutter

```
enum DiagnosisState {
    unspecified,
    stablished,
    cancelled,
    cured,
    chronicled,
}

class DgnDiagnosis extends ModelEntity {
    DisDisease?    _disease;
    UsrUser?       _therapist;
    DiagnosisState _state = DiagnosisState.unspecified;
    String?        _annotations;
}
```

8.1.3 Golang

PENDENT

8.1.4 SQLite

```
CREATE TABLE $tnDgnDiagnosis (
    $standardHeader,
    $fldDisease        $dbtIntNotNull REFERENCES $tnDisDisease($fldId),
    $fldTherapist      $dbtIntNotNull REFERENCES $tnUsrUser($fldId),
    $fldDiagnosisState $dbtIntNotNull DEFAULT 0,
    $fldAnnotations    $dbtText
);
```

8.1.5 MariaDB

```
CREATE TABLE DIAGNOSIS (
    ID              INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY      INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT      DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY      INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT      DATETIME,
    DISEASE_ID      INT UNSIGNED NOT NULL REFERENCES DISEASE(ID),
    THERAPIST_ID    INT UNSIGNED NOT NULL REFERENCES USER(ID),
    DIAGNOSIS_STATE INT UNSIGNED NOT NULL,
    ANNOTATIONS     VARCHAR(2048)
) ENGINE = InnoDB;
```

8.2 Entitat DIAGNOSIS_PHASE

8.2.1 Proto3

```
message DgnDiagnosisPhase {
    a_user.usrmod.BaseEntity                base_entity = 1;
    DgnDiagnosis                            diagnosis = 2;
    b_definitions.dismod.DisPhase           disease_phase = 3;
    d_admin.vismod.VisVisit                 visit = 4;
    c_working.dgnmod.DgnDiagnosisPhaseState state = 5;
    optional DgnAchievement                 relapse = 6;
    optional string                         annotations = 7;
}
```

8.2.2 Flutter

```
enum DiagnosisPhaseState {
    unspecified,
    opened,
    achieved,
    relapsed,
    chronicled,
}

class DgnDiagnosisPhase extends ModelEntity {
    DgnDiagnosis?       _diagnosis;
    DisPhase?           _phase;
    VisVisit?           _visit;
    DiagnosisPhaseState _state = DiagnosisPhaseState.unspecified;
    DgnDiagnosisPhase?  _relapse;
    String?             _annotations;
}
```

8.2.3 Golang

PENDENT

8.2.4 SQLite

```
CREATE TABLE $tnDgnDiagnosisPhase (
    $standardHeader,
    $fldDiagnosis           $dbtIntNotNull REFERENCES $tnDgnDiagnosis($fldId),
    $fldDiseasePhase        $dbtIntNotNull REFERENCES $tnDisPhase($fldId),
    $fldVisit               $dbtIntNotNull REFERENCES $tnVisVisit($fldId),
    $fldDiagnosisPhaseState $dbtIntNotNull DEFAULT 0,
    $fldRelapse             $dbtInt REFERENCES $tnDgnDiagnosisPhase($fldId),
    $fldAnnotations         $dbtText
    );
```

8.2.5 MariaDB

```
CREATE TABLE DIAGNOSIS_PHASE (
    ID               INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY       INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT       DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY       INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT       DATETIME,
    DIAGNOSIS_ID     INT UNSIGNED NOT NULL REFERENCES DIAGNOSIS(ID),
    DISEASE_PHASE_ID INT UNSIGNED NOT NULL REFERENCES PHASE(ID),
    VISIT_ID         INT UNSIGNED NOT NULL REFERENCES VISIT(ID),
```

```
    PHASE_STATE      INT UNSIGNED NOT NULL,
    RELAPSE_ID       INT UNSIGNED REFERENCES DIAGNOSIS_PHASE(ID),
    ANNOTATIONS  VARCHAR(2048)
) ENGINE = InnoDB;
```

8.3 Entitat ACHIEVEMENT

8.3.1 Proto3

```
message DgnAchievement {
    a_user.usrmod.BaseEntity                base_entity = 1;
    b_definitions.dismod.DisGoal            goal = 2;
    DgnDiagnosisPhase                       phase = 3;
    c_working.dgnmod.DgnDiagnosisPhaseState state = 4;
    optional DgnAchievement                 relapse = 5;
    optional string                         annotations = 6;
}
```

8.3.2 Flutter

```
enum AchievementState {
    unspecified,
    proposed,
    pending,
    cancelled,
    achieved,
    relapsed,
}

class DgnAchievement extends ModelEntity {
    DisGoal?           _goal;
    DgnDiagnosisPhase? _phase;
    AchievementState   _state = AchievementState.unspecified;
    DgnAchievement?    _relapse;
    String?            _annotations;
}
```

8.3.3 Golang

PENDENT

8.3.4 SQLite

```
CREATE TABLE $tnDgnAchievement (
    $standardHeader,
    $fldGoal             $dbtIntNotNull REFERENCES $tnDisGoal($fldId),
    $fldDiagnosisPhase   $dbtIntNotNull REFERENCES $tnDgnDiagnosisPhase($fldId),
    $fldRelapse          $dbtInt REFERENCES $tnDgnAchievement($fldId),
    $fldAchievementState $dbtIntNotNull DEFAULT 0,
    $fldAnnotations      $dbtText
);
```

8.3.5 MariaDB

```
CREATE TABLE ACHIEVEMENT (
    ID                 INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY         INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT         DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY         INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT         DATETIME,
    GOAL_ID            INT UNSIGNED NOT NULL REFERENCES GOAL(ID),
    DIAGNOSIS_PHASE_ID INT UNSIGNED NOT NULL REFERENCES DIAGNOSIS_PHASE(ID),
    ACV_STATE          INT UNSIGNED NOT NULL,
    RELAPSE_ID         INT UNSIGNED REFERENCES ACHIEVEMENT(ID),
    ANNOTATIONS        VARCHAR(2048)
) ENGINE = InnoDB;
```

9 Mòdul MATMOD

9.1 Entitat MATERIAL

9.1.1 Proto3

```
message MatMaterial {
    a_user.usrmod.BaseEntity              base_entity = 1;
    e_localization.locmod.string          name = 2;
    optional e_localization.locmod.string desc_key = 3;
    b_definitions.resmod.ResResource      resource = 4;
    b_definitions.resmod.ResResourceType  resource_type = 5;
    e_localization.locmod.string          containt = 6;
    string                                link = 7;
}
```

9.1.2 Flutter

```
class MatMaterial extends ModelEntity {
    String?      _nameKey;
    String?      _name;
    String?      _descKey;
    String?      _desc;
    RscResource? _resource;
    ResourceType _type = ResourceType.unspecified;
    String?      _plainKey;
    String?      _plain;
    String?      _link;
}
```

9.1.3 Golang

9.1.4 SQLite

```
CREATE TABLE $tnMatMaterial (
    $standardHeader,
    $fldNameKey      $dbtTextNotNullUnique,
    $fldDescKey      $dbtText,
    $fldResource     $dbtIntNotNull REFERENCES $tnRscResource($fldId),
    $fldResourceType $dbtIntNotNull DEFAULT 0,
    $fldPlainKey     $dbtText,
    $fldLink         $dbtText
);
```

9.1.5 MariaDB

```
CREATE TABLE MATERIAL (
    ID            INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY    INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT    DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY    INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT    DATETIME,
    NAME_KEY      VARCHAR(100) NOT NULL,
    DESC_KEY      VARCHAR(100),
    RESOURCE_ID   INT UNSIGNED NOT NULL REFERENCES RESOURCE(ID),
    MATERIAL_TYPE INT UNSIGNED NOT NULL,
    PLAIN_KEY     VARCHAR(100),
    LINK          VARCHAR(4096)
) ENGINE = InnoDB;
```

9.2 Entitat MATERIAL_PHASE

9.2.1 Proto3

```
message MatPhaseMaterial {
    a_user.usrmod.BaseEntity              base_entity = 1;
    b_definitions.resmod.ResPhaseResource phase = 2;
    a_user.usrmod.UsrUser                 patient = 3;
}
```

9.2.2 Flutter

```
class MatPhaseMaterial extends ModelEntity {
    UsrUser?          _patient;
    RscPhaseResource? _phase;
}
```

9.2.3 Golang

PENDENT

9.2.4 SQLite

```
CREATE TABLE $tnMatPhaseMaterial (
    $standardHeader,
    $fldPatient       $dbtIntNotNull REFERENCES $tnUsrUser($fldId)
    $fldPhaseResource $dbtIntNotNull REFERENCES $tnRscPhaseResource($fldId)
      );
```

9.2.5 MariaDB

```
CREATE TABLE PHASE_MATERIAL (
    ID                INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY        INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT        DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY        INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT        DATETIME,
    PATIENT_ID        INT UNSIGNED NOT NULL REFERENCES USER(ID),
    PHASE_RESOURCE_ID INT UNSIGNED NOT NULL REFERENCES PHASE_RESOURCE(ID)
) ENGINE InnoDB;
```

10 Mòdul REGMOD

10.1 Entitat REGISTER

10.1.1 Proto3

```
message RegRegister {
    a_user.usrmod.BaseEntity          base_entity = 1;
    b_definitions.tckmod.TckTracking  tracking = 2;
    a_user.usrmod.UsrUser             patient = 3;
    optional Timestamp                first_date = 4;
    optional Timestamp                last_date = 5;
    c_working.regmod.RegRegisterState state = 6;
}
```

10.1.2 Flutter

```
enum RegisterState {
    unspecified,
    assigned,
    statical,
    cancelled,
}

class RegRegister extends ModelEntity {
    TckTracking?  _tracking;
    UsrUser?      _patient;
    DateTime?     _firstDate;
    DateTime?     _lastDate;
    RegisterState _state = RegisterState.unspecified;
}
```

10.1.3 Golang

10.1.4 SQLite

```
CREATE TABLE $tnRegRegister (
    $standardHeader,
    $fldTracking      $dbtIntNotNull REFERENCES $tnTckTracking($fldId),
    $fldPatient       $dbtIntNotNull REFERENCES $tnUsrUser($fldId),
    $fldFirstDate     $dbtDateTime,
    $fldLastDate      $dbtDateTime,
    $fldRegisterState $dbtIntNotNull DEFAULT 0
);
```

10.1.5 MariaDB

```
CREATE TABLE REGISTER (
    ID             INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY     INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT     DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY     INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT     DATETIME,
    TRACKING_ID    INT UNSIGNED NOT NULL REFERENCES TRACKING(ID),
    PATIENT_ID     INT UNSIGNED NOT NULL REFERENCES USER(ID),
    FIRST_DATETIME DATETIME,
    LAST_DATETIME  DATETIME,
    REGISTER_STATE INT UNSIGNED NOT NULL
) ENGINE = InnoDB;
```

10.2 Entitat REGISTER_COLUMN

10.2.1 Proto3

```
message RegRegisterColumn {
    a_user.usrmod.BaseEntity                       base_entity = 1;
    RegRegister                                    register = 2;
    b_definitions.tckmod.TckTrackingColumn         column = 3;
    optional e_localization.lstmod.LstOptionEntrty option = 4;
    optional b_definitions.emomod.EmoEmotion       emotion = 5;
    optional b_definitions.emomod.EmoMood          mood = 6;
    optional string                                value = 7;
}
```

10.2.2 Flutter

```
class RegRegisterColumn extends ModelEntity {
    RegRegister?       _register;
    TckTrackingColumn? _column;
    LstOptionEntry?    _option;
    EmoEmotion?        _emotion;
    EmoMood?           _mood;
    String?            _value;
}
```

10.2.3 Golang

PENDENT

10.2.4 SQLite

```
CREATE TABLE $tnRegRegisterColumn (
    $standardHeader,
    $fldRegister       $dbtIntNotNull REFERENCES $tnRegRegister($fldId),
    $fldTrackingColumn $dbtIntNotNull REFERENCES $tnTckTrackingColumn($fldId),
    $fldOptionEntry    $dbtInt REFERENCES $tnLstOptionEntry($fldId),
    $fldEmotion        $dbtInt REFERENCES $tnEmoEmotion($fldId),
    $fldMood           $dbtInt REFERENCES $tnEmoMood($fldId),
    $fldValue          $dbtInt
 );
```

10.2.5 MariaDB

```
CREATE TABLE REGISTER_COLUMN (
    ID           INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY   INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT   DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY   INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT   DATETIME,
    REGISTER_ID  INT UNSIGNED NOT NULL REFERENCES REGISTER(ID),
    TRACK_COL_ID INT UNSIGNED NOT NULL REFERENCES TRACKING_COLUMN(ID),
    OPTION_ID    INT UNSIGNED REFERENCES OPTION_LIST(ID),
    EMOTION_ID   INT UNSIGNED REFERENCES EMOTION(ID),
    MOOD_ID      INT UNSIGNED REFERENCES MOOD(ID),
    VALUE        VARCHAR(4096)
) ENGINE = InnoDB;
```

11 Mòdul RESMOD

11.1 Entitat PATIENT_TEST

11.1.1 Proto3

```
message ResPatientTest {
    BaseEntity         base_entity = 1;
    TstTest            test = 2;
    UsrUser            therapist = 3;
    UsrUser            patient = 4;
    optional Timestamp assign_date = 5;
    optional Timestamp finish_date = 6;
    optional UsrUser   revised_by = 7;
    optional Timestamp revision_date = 8;
    optional string    valoration = 9;
}
```

11.1.2 Flutter

```
class ResPatientTest extends ModelEntity {
    UsrUser?  _therapist; // NOT NULL
    UsrUser?  _patient; // NOT NULL
    DateTime? _assignAt;
    DateTime? _completedAt;
    UsrUser?  _evaluatedBy;
    DateTime? _evaluatedAt;
    String?   _evaluation;
}
```

11.1.3 Golang

11.1.4 SQLite

```
CREATE TABLE $tnResPatientTest (
    $standardHeader,
    $fldTherapist   $dbtIntNotNull REFERENCES $tnUsrUser($fldId),
    $fldPatient     $dbtIntNotNull REFERENCES $tnUsrUser($fldId),
    $fldAssignedAt  $dbtDateTime,
    $fldCompletedAt $dbtDateTime,
    $fldEvaluatedBy $dbtInt REFERENCES $tnUsrUser($fldId),
    $fldEvaluatedAt $dbtDateTime,
    $fldEvaluation  $dbtText
);
```

11.1.5 MariaDB

```
CREATE TABLE PATIENT_TEST (
    ID           INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY   INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT   DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY   INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT   DATETIME,
    THERAPIST_ID INT UNSIGNED NOT NULL REFERENCES USER(ID),
    PATIENT_ID   INT UNSIGNED NOT NULL REFERENCES USER(ID),
    ASSIGNED_AT  DATETIME,
    COMPLETED_AT DATETIME,
    EVALUATED_BY INT UNSIGNED REFERENCES USER(ID),
    EVALUATED_AT DATETIME,
    EVALUATION   VARCHAR(4096)
```

```
) ENGINE = InnoDB;
```

11.2 Entitat ANSWER

11.2.1 Proto3

```
message ResAnswer {
    BaseEntity              base_entity = 1;
    ResPatientTest          test = 2;
    TstQuestion             question = 3;
    optional string         answer = 4;
    optional LstOptionEntry option = 5;
    optional EmoEmotion     emotion = 6;
    optional EmoMood        mood = 7;
    optional Timestamp      valued_date = 8;
    optional UsrUser        revised_by = 9;
    optional Timestamp      revision_date = 10;
    optional string         valoration = 11;
}
```

11.2.2 Flutter

```
class ResAnswer extends ModelEntity {
    TstTest?       _test;
    TstQuestion?   _question;
    String?        _answer;
    LstOptionList? _list;
    EmoEmotion?    _emotion;
    EmoMood?       _mood;
    DateTime?      _completedAt;
    UsrUser?       _evaluatedBy;
    DateTime?      _evaluatedAt;
    String?        _evaluation;
}
```

11.2.3 Golang

PENDENT

11.2.4 SQLite

```
CREATE TABLE $tnResAnswer (
    $standardHeader,
    $fldTest        $dbtIntNotNull REFERENCES $tnTstTest($fldId),
    $fldQuestionId  $dbtIntNotNull REFERENCES $tnTstQuestion($fldId),
    $fldAnswer      $dbtText,
    $fldList        $dbtIntNotNull REFERENCES $tnLstOptionList($fldId),
    $fldEmotion     $dbtIntNotNull REFERENCES $tnEmoEmotion($fldId),
    $fldMood        $dbtIntNotNull REFERENCES $tnEmoMood($fldId),
    $fldCompletedAt $dbtDateTime,
    $fldEvaluatedBy $dbtInt REFERENCES $tnUsrUser($fldId),
    $fldEvaluatedAt $dbtDateTime,
    $fldEvaluation  $dbtText
);
```

11.2.5 MariaDB

```
CREATE TABLE ANSWER (
    ID           INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY   INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT   DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY   INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT   DATETIME,
    TEST_ID      INT UNSIGNED NOT NULL REFERENCES PATIENT_TEST(ID),
    QUESTION_ID  INT UNSIGNED NOT NULL REFERENCES QUESTION(ID),
    ANSWER       VARCHAR(2048),
    LIST_ID      INT UNSIGNED REFERENCES OPTION_LIST(ID),
    EMOTION_ID   INT UNSIGNED REFERENCES EMOTION(ID),
    MOOD_ID      INT UNSIGNED REFERENCES MOOD(ID),
    COMPLETED_AT DATETIME,
    EVALUATED_BY INT UNSIGNED REFERENCES USER(ID),
    EVALUATED_AT DATETIME,
    EVALUATION   VARCHAR(4096)
) ENGINE = InnoDB;
```

12 Mòdul NTFMOD

12.1 Entitat NOTIFICATION

12.1.1 Proto3

```
message NtfNotification {
    a_user.usrmod.BaseEntity                base_entity = 1;
    a_user.usrmod.UsrUser                   user = 2;
    string                                  notification = 3;
    d_admin.ntfmod.NtfNotificationType      notification_type = 4;
    d_admin.ntfmod.NtfNotificationState     notification_state = 5;
    optional c_working.resmod.ResPatientTest test = 6;
    optional c_working.regmod.RegRegister   tracking = 7;
    optional c_working.matmod.MatMaterial   material = 8;
}
```

12.1.2 Flutter

```
enum NotificationType {
    unspecified,
    type1,
    type2,
    type3,
}
```

```
enum NotificationState {
    unspecified,
    received,
    readed,
}
```

```
class NtfNotification extends ModelEntity {
    UsrUser?          _user;
    String?           _notification;
    NotificationType  _type = NotificationType.unspecified;
    NotificationState _state = NotificationState.unspecified;
    TstTest?          _test;
    RegRegister?      _register;
    RscResource?      _resource;
}
```

12.1.3 Golang

PENDENT

12.1.4 SQLite

```
CREATE TABLE $tnNtfNotification (
      $standardHeader,
      $fldUser              $dbtIntNotNull REFERENCES $tnUsrUser($fldId),
      $fldNotification      $dbtTextNotNull,
      $fldNotificationType  $dbtIntNotNull DEFAULT 0,
      $fldNotificationState $dbtIntNotNull DEFAULT 0,
      $fldTest              $dbtInt REFERENCES $tnTstTest($fldId),
      $fldRegister          $dbtInt REFERENCES $tnRegRegister($fldId),
      $fldResource          $dbtInt REFERENCES $tnRscResource($fldId)
);
```

12.1.5 MariaDB

```
CREATE TABLE NOTIFICATION (
    ID           INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY   INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT   DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY   INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT   DATETIME,
    USER_ID      INT UNSIGNED NOT NULL REFERENCES USER(ID),
    NOTIFICATION VARCHAR(1024) NOT NULL,
    NTF_TYPE     INT UNSIGNED NOT NULL,
    NTF_STATE    INT UNSIGNED NOT NULL,
    TEST_ID      INT UNSIGNED REFERENCES PATIENT_TEST(ID),
    REGISTER_ID  INT UNSIGNED REFERENCES REGISTER(ID),
    RESOURCE_ID  INT UNSIGNED REFERENCES RESOURCE(ID)
) ENGINE = InnoDB;
```

13 Mòdul TSKMOD

13.1 Entitat TASK

13.1.1 Proto3

```
message TskTask {
    a_user.usrmod.BaseEntity                base_entity = 1;
    a_user.usrmod.UsrUser                   therapist = 2;
    a_user.usrmod.UsrUser                   patient = 3;
    d_admin.tskmod.TskTaskType              task_type = 4;
    d_admin.tskmod.TskTaskState             task_state = 5;
    string                                  task = 6;
    optional c_working.resmod.ResPatientTest test = 7;
    optional c_working.regmod.RegRegister   tracking = 8;
    optional c_working.matmod.MatMaterial   material = 9;
    optional Timestamp                      start_date = 10;
    optional Timestamp                      end_date = 11;
}
```

13.1.2 Flutter

```
enum TaskType {
    unspecified,
    test,
    register,
    resource,
    custom,
}
```

```
enum TaskState {
    unspecified,
    assigned,
    finished,
    statical,
}
```

```
class TskTask extends ModelEntity {
    UsrUser?     _therapist;
    UsrUser?     _patient;
    TaskType     _type = TaskType.unspecified;
    TaskState    _state = TaskState.unspecified;
    String?      _descKey;
    String?      _desc;
    TstTest?     _test;
    RegRegister? _register;
    RscResource? _resource;
    DateTime?    _startDate;
    DateTime?    _endDate;
}
```

13.1.3 Golang

PENDENT

13.1.4 SQLite

```
CREATE TABLE $tnTskTask (
    $standardHeader,
    $fldTherapist $dbtIntNotNull REFERENCES $tnUsrUser($fldId),
    $fldPatient   $dbtIntNotNull REFERENCES $tnUsrUser($fldId),
    $fldTaskType  $dbtIntNotNull DEFAULT 0,
    $fldTaskState $dbtIntNotNull DEFAULT 0,
    $fldDescKey   $dbtTextNotNull,
    $fldTest      $dbtIntNotNull REFERENCES $tnTstTest($fldId),
```

```
    $fldRegister  $dbtIntNotNull REFERENCES $tnRegRegister($fldId),
    $fldResource  $dbtIntNotNull REFERENCES $tnRscResource($fldId),
    $fldStartDate $dbtDateTime,
    $fldEndDate   $dbtDateTime
);
```

13.1.5 MariaDB

```
CREATE TABLE TASK (
    ID           INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY   INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT   DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY   INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT   DATETIME,
    THERAPIST_ID INT UNSIGNED NOT NULL REFERENCES USER(ID),
    PATIENT_ID   INT UNSIGNED NOT NULL REFERENCES USER(ID),
    TASK_TYPE    INT UNSIGNED NOT NULL,
    TASK_STATE   INT UNSIGNED NOT NULL,
    DESC_KEY     VARCHAR(2048) NOT NULL,
    TEST_ID      INT UNSIGNED REFERENCES PATIENT_TEST(ID),
    REGISTER_ID  INT UNSIGNED REFERENCES REGISTER(ID),
    RESOURCE_ID  INT UNSIGNED REFERENCES RESOURCE(ID),
    START_DATE   DATETIME,
    END_DATE     DATETIME
) ENGINE = InnoDB;
```

14 Mòdul VISMOD

14.1 Entitat VISIT

14.1.1 Proto3

```
message VisVisit {
    a_user.usrmod.BaseEntity base_entity = 1;
    a_user.usrmod.UsrUser therapist = 2;
    a_user.usrmod.UsrUser patient = 3;
    bool first_visit = 4;
    optional Timestamp date_time = 5;
    d_admin.vismod.VisVisitType visit_type = 6;
    d_admin.vismod.VisVisitState visit_state = 7;
}
```

14.1.2 Flutter

```
enum VisitType {
    unspecified,
    face2face,
    online,
}
```

```
enum VisitState {
    unspecified,
    stablished,
    finnished,
    cancelled,
    nulled,
}
```

```
class VisVisit extends ModelEntity {
    UsrUser?   _therapist;
    UsrUser?   _patient;
    bool       _isFirst = false;
    DateTime?  _dateTime;
    VisitType  _type = VisitType.unspecified;
    VisitState _state = VisitState.unspecified;
}
```

14.1.3 Golang

PENDENT

14.1.4 SQLite

```
CREATE TABLE $tnVisVisit (
    $standardHeader,
    $fldTherapist  $dbtIntNotNull REFERENCES $tnUsrUser($fldId),
    $fldPatient    $dbtIntNotNull REFERENCES $tnUsrUser($fldId),
    $fldIsFirst    $dbtBooleanNotNull DEAFALUT 0,
    $fldDateTime   $dbtDateTimeNotNull,
    $fldVisitType  $dbtIntNotNull DEFAULT 0,
    $fldVisitState $dbtIntNotNull DEFAULT 0
);
```

14.1.5 MariaDB

```
CREATE TABLE VISIT (
    ID           INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY   INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT   DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY   INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT   DATETIME,
```

```
    THERAPIST_ID INT UNSIGNED NOT NULL REFERENCES USER(ID),
    PATIENT_ID   INT UNSIGNED NOT NULL REFERENCES USER(ID),
    IS_FIRST     BOOLEAN NOT NULL DEFAULT FALSE,
    DATE_TIME    DATETIME NOT NULL,
    VISIT_TYPE   INT UNSIGNED NOT NULL,
    VISIT_STATE  INT UNSIGNED NOT NULL
) ENGINE = InnoDB;
```

15 Mòdul LOCMOD

15.1 Entitat TRANSLATION

15.1.1 Proto3

```
message LocTranslation {
    string locale_id = 1;
    string text_key = 2;
    string literal = 3;
    int    iteration = 4;
    bool   is_new = 5;
    bool   is_updated = 6;
    bool   is_deleted = 7;
}
```

15.1.2 Flutter

```
class LocTranslation extends ModelEntity {
    late String? _tKey;
    late Locale  _locale = localeES;
    late String? _literal;
    late int?    _iteration;
}
```

15.1.3 Golang

PENDENT

15.1.4 SQLite

```
CREATE TABLE $tnLocTranslation (
    $fldLocaleCode $dbtTextNotNull,
    $fldTextKey    $dbtTextNotNull,
    $fldLiteral    $dbtTextNotNull,
    $fldIteration  $dbtIntNotNull DEFAULT 0
    );
CREATE UNIQUE INDEX ${tnLocTranslation}_PK ON $tnLocTranslation($fldLocaleCode, $fldTextKey);
```

15.1.5 MariaDB

```
CREATE TABLE TRANSLATION (
    ID          INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    TEXT_KEY    VARCHAR(100) NOT NULL,
    LOCALE_CODE VARCHAR(2) NOT NULL,
    LITERAL     VARCHAR(5000) NOT NULL,
    UNIQUE(TEXT_KEY, LOCALE_CODE),
    FULLTEXT (LITERAL)
) ENGINE = InnoDB;
```

16 Mòdul LSTMOD

16.1 Entitat LIST_CATEGORY

16.1.1 Proto3

```
message LstListCategory {
    BaseEntity               base_entity = 1;
    string                   name_key = 2;
    optional string          desc_key = 3;
    optional LstListCategory parent = 4;
}
```

16.1.2 Flutter

```
class LstListCategory extends ModelEntity {
    String?          _nameKey;
    String?          _name;
    String?          _descKey;
    String?          _desc;
    LstListCategory? _parent;
}
```

16.1.3 Golang

16.1.4 SQLite

```
CREATE TABLE $tnLstListCategory (
    $standardHeader,
    $fldNameKey $dbtTextNotNullUnique,
    $fldDescKey $dbtText,
    $fldParent  $dbtInt REFERENCES $tnLstListCategory($fldId),
);
```

16.1.5 MariaDB

```
CREATE TABLE LIST_CATEGORY (
    ID         INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT DATETIME,
    NAME_KEY   VARCHAR(100) NOT NULL,
    DESC_KEY   VARCHAR(100),
    PARENT_ID  INT UNSIGNED REFERENCES LIST_CATEGORY(ID),
    INDEX(PARENT_ID)
) ENGINE = InnoDB;
```

16.2 Entitat OPTION_LIST

16.2.1 Proto3

```
message LstOptionList {
    BaseEntity      base_entity = 1;
    string          name_key = 2;
    optional string desc_key = 3;
    LstListCategory category = 4;
    bool            alpha = 5;
}
```

16.2.2 Flutter

```
class LstOptionList extends ModelEntity {
    String?          _nameKey;
    String?          _name;
    String?          _descKey;
    String?          _desc;
    LstListCategory? _category;
    bool             _isAlpha = false;
}
```

16.2.3 Golang

PENDENT

16.2.4 SQLite

```
CREATE TABLE $tnLstOptionList (
      $standardHeader,
      $fldNameKey      $dbtTextNotNull,
      $fldDescKey      $dbtText,
      $fldListCategory $dbtIntNotNull REFERENCES $tnLstListCategory($fldId),
      $fldIsAlpha      $dbtBooleanNotNull DEFAULT 0
);
```

16.2.5 MariaDB

```
CREATE TABLE OPTION_LIST (
    ID               INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY       INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT       DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY       INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT       DATETIME,
    NAME_KEY         VARCHAR(100) NOT NULL,
    DESC_KEY         VARCHAR(100) NOT NULL,
    LIST_CATEGORY_ID INT UNSIGNED NOT NULL REFERENCES LIST_CATEGORY(ID),
    IS_ALPHA         BOOLEAN NOT NULL DEFAULT FALSE
) ENGINE = InnoDB;
```

16.3 Entitat OPTION_ENTRY

16.3.1 Proto3

```
message LstOptionEntry {
    BaseEntity      base_entity = 1;
    LstOptionList   list = 2;
    int32           index = 3;
    string          option_key = 4;
    optional string desc_key_key = 5;
}
```

16.3.2 Flutter

```
class LstOptionEntry extends ModelEntity {
    LstOptionList? _list;
    int?           _idx;
    String?        _optionKey;
    String?        _option;
    String?        _descKey;
    String?        _desc;
    bool           _isAlpha = false;
}
```

16.3.3 Golang

PENDENT

16.3.4 SQLite

```
CREATE TABLE $tnLstOptionEntry (
    $standardHeader,
    $fldList      $dbtIntNotNull REFERENCES $tnLstOptionList,
    $fldIdx       $dbtIntNotNull DEFAULT 0,
    $fldOptionKey $dbtTextNotNull,
    $fldDescKey   $dbtTextNotNull,
    $fldIsAlpha   $dbtBooleanNotNull DEFAULT 0
);
```

16.3.5 MariaDB

```
CREATE TABLE OPTION_ENTRY (
    ID          INT UNSIGNED NOT NULL AUTO_INCREMENT PRIMARY KEY,
    CREATED_BY  INT UNSIGNED NOT NULL REFERENCES USER(ID),
    CREATED_AT  DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    UPDATED_BY  INT UNSIGNED REFERENCES USER(ID),
    UPDATED_AT  DATETIME,
    LIST_ID    INT UNSIGNED NOT NULL REFERENCES OPTION_LIST(ID),
    IDX        INT UNSIGNED NOT NULL,
    OPTION_KEY VARCHAR(100) NOT NULL,
    DESC_KEY   VARCHAR(100),
    IS_ALPHA   BOOLEAN NOT NULL DEFAULT FALSE
) ENGINE = InnoDB;
```

17 Índexs

Diagrames

Entitats