**A6 – Integrity constraints. Indexes, triggers, user functions and database populated with data**

This artefact contains the physical schema of the database necessary for the Project Management website. It contains the characterisation of the indexes, the support of data integrity rules with triggers and the definition of the database user-defined functions. In addition, the code necessary for the above-mentioned indexes, queries and triggers, and all the inserts made.

1. **Database workload**
   1. **Estimate of tuples**

|  |  |  |  |
| --- | --- | --- | --- |
| Relation reference | Relation name | Order of magnitude | Estimated growth |
| R01 | User | Dozens | Units per week |
| R02 | Project | Hundreds | Dozens per month |
| R03 | Board | Hundreds | Dozens per month |
| R04 | Task | Thousands | Dozens per week |
| R05 | Meeting | Hundreds | Units per week |
| R06 | Personal\_event | Hundreds | Units per week |
| R07 | Comment | Dozens | Units per week |
| R08 | File | Dozens | Units per week |
| R09 | Notification | Thousands | Units per day |
| R10 | Progress\_update | Thousands | Units per day |
| R11 | Message | Hundreds | Units per week |
| R12 | Project\_team | Hundreds | Dozens per month |
| R13 | Board\_team | Hundreds | Dozens per month |
| R14 | Profile\_picture | Dozens | Units per week |
| R15 | Project\_picture | Hundreds | Dozens per month |
| R16 | Contact | Dozens | Units per month |
| R17 | Ban\_user | Units | Units per year |
| R18 | Archive\_project | Dozens | Units per month |

* 1. **Most frequent queries**

|  |  |
| --- | --- |
| Query reference | SELECT01 |
| Query description | Check if e-mail exists |
| SELECT e\_mail FROM "User"  WHERE user.e\_mail = $userEmail | |

|  |  |
| --- | --- |
| Query reference | SELECT02 |
| Query description | Email’s password |
| SELECT password FROM "User"  WHERE user.e\_mail = $userEmail | |

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| --- | --- |
| Query reference | SELECT03 |
| Query description | All public projects |
| SELECT name FROM Project  WHERE Project.privacy=1 | |
|  | |

|  |  |
| --- | --- |
| Query reference | SELECT04 |
| Query description | All user’s projects |
| SELECT \*  FROM Project  INNER JOIN Project\_team ON Project.id=Project\_team.id\_project  WHERE Project.id\_coordinator=$user OR Project\_team.id\_user=$user | |
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| --- | --- |
| Query reference | SELECT05 |
| Query description | All user’s personal events |
| SELECT \* FROM Personal\_event  WHERE Personal\_event.id\_user=$user | |
|  | |

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| --- | --- |
| Query reference | SELECT06 |
| Query description | All users board’s meetings |
| SELECT \*  FROM Meeting  INNER JOIN Board\_team ON Meeting.id\_board=Board\_team.id\_board  WHERE Board\_team.id\_worker=$user | |
|  | |

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| --- | --- |
| Query reference | SELECT07 |
| Query description | User’s personal info |
| SELECT \* FROM "User"  WHERE User.id=$user | |
|  | |

|  |  |
| --- | --- |
| Query reference | SELECT08 |
| Query description | User’s notifications |
| SELECT \* FROM Notification  WHERE Notification.id\_user=$user | |
|  | |

|  |  |
| --- | --- |
| Query reference | SELECT09 |
| Query description | User’s number of unread notifications |
| SELECT COUNT id  FROM Notification  WHERE Notification.id\_user=$user AND Notification.read=0 | |
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| --- | --- |
| Query reference | SELECT10 |
| Query description | Project’s boards |
| SELECT \*  FROM Board  WHERE Board.id\_project=$projectId | |
|  | |

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| --- | --- |
| Query reference | SELECT11 |
| Query description | Project’s info |
| SELECT \* FROM Project  WHERE Project.id=$projectId | |
|  | |

|  |  |
| --- | --- |
| Query reference | SELECT12 |
| Query description | Project worker’s info |
| SELECT User.full\_name, Profile\_picture.path, User.e\_mail  FROM "User"  INNER JOIN Profile\_picture ON Profile\_picture.id\_user=$user  WHERE Project.id=$projectId AND Profile\_picture.path=SELECT(MAX(Profile\_picture.id)) | |
|  | |

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| --- | --- |
| Query reference | SELECT13 |
| Query description | Project’s events |
| SELECT \*  FROM Meeting  INNER JOIN Board ON Board.id=Meeting.id\_board  WHERE Board.id\_project=$projectId | |
|  | |

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| --- | --- |
| Query reference | SELECT14 |
| Query description | Last week project’s messages |
| SELECT \*  FROM Message  WHERE Message.id\_project=$projectId AND Message.date >= DATEADD(day, -7, GETDATE()) | |
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| --- | --- |
| Query reference | SELECT15 |
| Query description | Board’s tasks |
| SELECT Task.id  FROM Task  WHERE Task.id\_board=$boardId | |
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| --- | --- |
| Query reference | SELECT16 |
| Query description | Task’s info |
| SELECT \*  FROM Task  WHERE Task.id=$taskId | |
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| --- | --- |
| Query reference | SELECT15 |
| Query description | Last 5 task’s updates |
| SELECT TOP 5 Comment.id, File.id, Progress\_update.id  FROM Task  INNER JOIN Comment ON Task.id=Comment.id\_task  INNER JOIN File ON Task.id=File.id\_task  INNER JOIN Task.id=Progress\_update.id\_task  WHERE Task.id=$taskId | |
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| --- | --- |
| Query reference | SELECT16 |
| Query description | Search project |
| SELECT id, name, description, start\_date, ts\_rank\_cd(textsearch, query) AS rank  FROM Project, to\_tsquery($search) AS query, to\_tsvector(name || ‘ ‘ || description) AS textsearch  WHERE query @@ textsearch\\ ORDER BY rank DESC; | |
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| --- | --- |
| Query reference | SELECT17 |
| Query description | Search user |
| SELECT username, full\_name, e\_mail FROM User  WHERE username LIKE ’$search%’ OR full\_name LIKE ’$search%’;  ORDER BY username; | |
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| --- | --- |
| Query reference | SELECT18 |
| Query description | Search boards |
| SELECT id, name, description ts\_rank\_cd(textsearch, query) AS rank  FROM Board, to\_tsquery($search) AS query, to\_tsvector(name || ‘ ‘ || description) AS textsearch  WHERE query @@ textsearch\\ ORDER BY rank DESC; | |
|  | |

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| --- | --- |
| Query reference | SELECT19 |
| Query description | Search tasks |
| SELECT id, name, description ts\_rank\_cd(textsearch, query) AS rank  FROM Task, to\_tsquery($search) AS query, to\_tsvector(name || ‘ ‘ || description) AS textsearch  WHERE query @@ textsearch\\ ORDER BY rank DESC; | |
|  | |

* 1. **Most frequent modifications**

|  |  |
| --- | --- |
| Query reference | UPDATE01 |
| Query description | Insert new progress update |
| INSERT INTO Progress\_update (new\_value, id\_user, id\_task)  VALUES ($new\_value, $id\_user, $id\_task) | |
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| --- | --- |
| Query reference | UPDATE02 |
| Query description | Update task progress |
| UPDATE Task  SET progress = $progress | |
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| --- | --- |
| Query reference | UPDATE03 |
| Query description | Upload new file |
| INSERT INTO File (path, description, id\_user, id\_task)  VALUES ($path, $description, $id\_user, $id\_task) | |
|  | |

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| --- | --- |
| Query reference | UPDATE04 |
| Query description | Comment task |
| INSERT INTO Comment (comment, id\_user, id\_task)  VALUES ($comment, $id\_user, $id\_task) | |
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| --- | --- |
| Query reference | UPDATE05 |
| Query description | Add personal event |
| INSERT INTO Personal\_event (date, place, name, id\_user)  VALUES ($date, $place, $name, $id\_user) | |
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| --- | --- |
| Query reference | UPDATE06 |
| Query description | Add board meeting |
| INSERT INTO Meeting (date, name, place, id\_board)  VALUES ($date, $name, $place, $id\_board) | |
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| --- | --- |
| Query reference | UPDATE07 |
| Query description | Add new project |
| INSERT INTO Project (description, name, id\_coordinator, privacy)  VALUES ($description, $name, $id\_coordinator, $privacy) | |
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| --- | --- |
| Query reference | UPDATE08 |
| Query description | Add new board to existing project |
| INSERT INTO Board (description, name, id\_creator, id\_project)  VALUES ($description, $name, $id\_creator, $id\_project) | |
|  | |

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| --- | --- |
| Query reference | UPDATE09 |
| Query description | Archive or close task |
| UPDATE Task  SET task\_state=$task\_state | |
|  | |
| Query reference | UPDATE10 |
| Query description | Archive or close project |
| UPDATE Project  SET project\_state=$project\_state | |
|  | |

|  |  |
| --- | --- |
| Query reference | UPDATE11 |
| Query description | Add new worker to project |
| INSERT INTO Project\_team (id\_user, id\_project)  VALUES ($id\_user, $id\_project) | |
|  | |

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| --- | --- |
| Query reference | UPDATE12 |
| Query description | Add new worker to board |
| INSERT INTO Board\_team (id\_board, id\_user)  VALUES ($id\_board, $id\_user) | |
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| --- | --- |
| Query reference | UPDATE13 |
| Query description | Add new user |
| INSERT INTO User (e\_mail, password, URL, username)  VALUES ($e\_mail, $password, $URL, $username) | |
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| --- | --- |
| Query reference | UPDATE14 |
| Query description | Update user’s full name |
| Query frequency |  |
| UPDATE User  SET full\_name=$full\_name | |
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| --- | --- |
| Query reference | UPDATE15 |
| Query description | Change password |
| UPDATE User  SET password=$password | |
|  | |

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| --- | --- |
| Query reference | UPDATE16 |
| Query description | Set user as administrator |
| UPDATE User  SET administrator=$administrator | |
|  | |

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| --- | --- |
| Query reference | UPDATE17 |
| Query description | Change profile picture |
| Query frequency |  |
| INSERT INTO Profile\_picture (id\_user, path)  VALUES ($id\_user, $path) | |
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| --- | --- |
| Query reference | UPDATE18 |
| Query description | Change project description |
| UPDATE Project  SET description=$description | |
|  | |

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| --- | --- |
| Query reference | UPDATE19 |
| Query description | Add project end date |
| UPDATE Project  SET end\_date=$end\_date | |
|  | |
| Query reference | UPDATE20 |
| Query description | Change project picture |
| INSERT INTO Project\_picture (id\_project, path)  VALUES ($id\_project, $path) | |
|  | |

|  |  |
| --- | --- |
| Query reference | UPDATE21 |
| Query description | Add user to contacts |
| INSERT INTO Contact (id\_user, id\_contact)  VALUES ($id\_user, $id\_contact) | |
|  | |

|  |  |
| --- | --- |
| Query reference | UPDATE22 |
| Query description | Send messages to project forum |
| INSERT INTO Message (message, id\_user, id\_project)  VALUES ($message, $id\_user, $id\_project) | |
|  | |

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| --- | --- |
| Query reference | UPDATE23 |
| Query description | Create new notification |
| INSERT INTO Notification (id\_user, notification)  VALUES ($id\_user, $notification) | |
|  | |

|  |  |
| --- | --- |
| Query reference | UPDATE24 |
| Query description | Mark notification as read or unread |
| Query frequency |  |
| UPDATE Notification  SET read=$read | |
|  | |

1. **Proposed Indexes**
   1. **Performance indexes**

|  |  |
| --- | --- |
| Index reference | INDEX01 |
| Related queries | SELECT07 |
| Index relation | User |
| Index attribute | e\_mail |
| Index type | Hash |
| Cardinality | High |
| Clustering | No |
| Justification | Query needs to be executed many times and has to be fast; cardinality is high because the e\_mail is a unique key; not a good candidate for clustering. |
| CREATE INDEX email\_user ON User USING hash(e\_mail) | |
|  | |



|  |  |
| --- | --- |
| Index reference | INDEX03 |
| Related queries | SELECT04 |
| Index relation | Project\_team |
| Index attribute | id\_user |
| Index type | Hash |
| Cardinality | Medium |
| Clustering | Yes |
| Justification | Query needs to be executed many times and table is very large, so it has be fast; cardinality is medium so it’s a good candidate for clustering. |
| CREATE INDEX user\_project ON Project\_team USING hash(id\_user) | |
|  | |

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| --- | --- |
| Index reference | INDEX04 |
| Related queries | SELECT10 |
| Index relation | Board |
| Index attribute | id\_project |
| Index type | Hash |
| Cardinality | Medium |
| Clustering | Yes |
| Justification | Query needs to be executed many times and has to be fast because it is executed many times; cardinality is medium so it’s a good candidate for clustering. |
| CREATE INDEX project\_boards ON Board USING hash(id\_project) | |
|  | |

|  |  |
| --- | --- |
| Index reference | INDEX05 |
| Related queries | SELECT14 |
| Index relation | Message |
| Index attribute | date, project |
| Index type | B-tree |
| Cardinality | Medium |
| Clustering | Yes |
| Justification | Query needs to be executed many times and table is very large; cardinality is medium so it’s a good candidate for clustering. |
| CREATE INDEX message\_date ON Message USING btree(date, id\_project) | |
|  | |

* 1. **Full-text Search indexes**

|  |  |
| --- | --- |
| Index reference | INDEX06 |
| Related queries | SELECT16 |
| Index relation | Project |
| Index attribute | Title, description |
| Index type | GiST |
| Clustering | No |
| Justification | To improve the performance of full text searches while searching for projects by their titles and descriptions; GiST because it’s better for dynamic data. |
| CREATE INDEX search\_project ON Project USING GIST (to\_tsvector(‘english’, title || ‘ ‘ || description) | |
|  | |

|  |  |
| --- | --- |
| Index reference | INDEX07 |
| Related queries | SELECT17 |
| Index relation | User |
| Index attribute | username |
| Index type | B-Tree |
| Clustering | No |
| Justification | To improve the performance of full text searches while searching for users by their username; B-Tree because it is of the form col LIKE '$search$%'. |
| CREATE INDEX search\_user ON User USING btree(username) | |
|  | |

|  |  |
| --- | --- |
| Index reference | INDEX08 |
| Related queries | SELECT18 |
| Index relation | Board |
| Index attribute | name |
| Index type | GiST |
| Clustering | No |
| Justification | To improve the performance of full text searches while searching for boards by their names and descriptions; GiST because it’s better for dynamic data. |
| CREATE INDEX search\_board ON Board USING GIST (to\_tsvector(‘english’, name || ‘ ‘ || description) | |
|  | |

|  |  |
| --- | --- |
| Index reference | INDEX09 |
| Related queries | SELECT19 |
| Index relation | Task |
| Index attribute | title |
| Index type | GiST |
| Clustering | No |
| Justification | To improve the performance of full text searches while searching for tasks by their names and descriptions; GiST because it’s better for dynamic data. |
| CREATE INDEX search\_task ON Task USING GIST (to\_tsvector(‘english’, name || ‘ ‘ || description) | |
|  | |

1. **Triggers**

|  |  |
| --- | --- |
| Trigger reference | TRIGGER01 |
| Trigger description | An e-mail can only be registered once |
| |  | | --- | | CREATE FUNCTION check\_exist\_email() RETURNS TRIGGER AS | |  | $BODY$ | |  | BEGIN | |  | IF EXISTS (SELECT e\_mail FROM "User" WHERE NEW.e\_mail = e\_mail) THEN | |  | RAISE EXCEPTION 'The e-mail you are trying to use is already registred' | |  | END IF; | |  | RETURN NEW; | |  | END | |  | $BODY$ | |  | LANGUAGE plpgsql; | |  |  | |  | CREATE TRIGGER check\_exist\_email | |  | BEFORE INSERT ON "User" | |  | FOR EACH ROW | |  | EXECUTE PROCEDURE check\_exist\_user(); | | |



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| --- | --- |
| Trigger reference | TRIGGER03 |
| Trigger description | Two boards of the same project can’t have the same name |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | CREATE FUNCTION check\_exist\_board() RETURNS TRIGGER AS | |  | $BODY$ | |  | BEGIN | |  | IF EXISTS (SELECT name FROM Board WHERE Board.id\_project=$projectId AND NEW.name=name) THEN | |  | RAISE EXCEPTION 'This project already has a board with that name' | |  | END IF; | |  | RETURN NEW; | |  | END | |  | $BODY$ | |  | LANGUAGE plpgsql; | |  |  | |  | CREATE TRIGGER check\_exist\_board | |  | BEFORE INSERT ON Board | |  | FOR EACH ROW | |  | EXECUTE PROCEDURE check\_exist\_board(); | | |  | |  | | |

|  |  |
| --- | --- |
| Trigger reference | TRIGGER04 |
| Trigger description | Can’t add user to team if he already belongs to it |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | |  | | |  | | --- | | CREATE FUNCTION check\_exist\_worker() RETURNS TRIGGER AS | |  | $BODY$ | |  | BEGIN | |  | IF EXISTS (SELECT name FROM Project\_team WHERE Project\_team.id\_project=$projectId AND NEW.id\_worker=id\_worker) THEN | |  | RAISE EXCEPTION 'This user already belongs to this team' | |  | END IF; | |  | RETURN NEW; | |  | END | |  | $BODY$ | |  | LANGUAGE plpgsql; | |  |  | |  | CREATE TRIGGER check\_exist\_worker | |  | BEFORE INSERT ON Project\_team | |  | FOR EACH ROW | |  | EXECUTE PROCEDURE check\_exist\_worker(); | | |  | |  | |  | |  | |  | |  | |  | |  | | |  | |  | | |

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| --- | --- |
| Trigger reference | TRIGGER05 |
| Trigger description | Can’t add user to contact list if he already belongs to it |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | CREATE FUNCTION check\_exist\_contact() RETURNS TRIGGER AS | |  | $BODY$ | |  | BEGIN | |  | IF EXISTS (SELECT name FROM Contact WHERE Contact.id\_user=$userId AND NEW.id\_contact=id\_contact AND NEW.id\_contact=$userId) THEN | |  | RAISE EXCEPTION 'This user already is on your contact list' | |  | END IF; | |  | RETURN NEW; | |  | END | |  | $BODY$ | |  | LANGUAGE plpgsql; | |  |  | |  | CREATE TRIGGER check\_exist\_contact | |  | BEFORE INSERT ON Contact | |  | FOR EACH ROW | |  | EXECUTE PROCEDURE check\_exist\_contact(); | |  | |  |  | | |  | |  | |  | |  | |  | |  | |  | |  | | |  | |  | | |

1. **SQL Code**

**Database creation**

|  |
| --- |
| -- |
|  | -- Domains |
|  | -- |
|  |  |
|  | CREATE DOMAIN state AS TEXT |
|  | CHECK( |
|  | VALUE ~ 'In\_progress' |
|  | OR VALUE ~ 'Closed' |
|  | OR VALUE ~ 'Archived' |
|  | ); |
|  |  |
|  | -- |
|  | -- Tables |
|  | -- |
|  |  |
|  | CREATE TABLE "Board" ( |
|  | id SERIAL NOT NULL, |
|  | description text, |
|  | name text NOT NULL, |
|  | id\_creator integer NOT NULL, |
|  | id\_project integer NOT NULL |
|  | ); |
|  |  |
|  | CREATE TABLE "Board\_team" ( |
|  | id\_board integer NOT NULL, |
|  | id\_user integer NOT NULL |
|  | ); |
|  |  |
|  | CREATE TABLE "Comment" ( |
|  | id SERIAL NOT NULL, |
|  | comment text NOT NULL, |
|  | date timestamp without time zone DEFAULT now() NOT NULL, |
|  | id\_user integer NOT NULL, |
|  | id\_task integer NOT NULL |
|  | ); |
|  |  |
|  | CREATE TABLE "Contact" ( |
|  | id\_user integer NOT NULL, |
|  | id\_contact integer NOT NULL |
|  | ); |
|  |  |
|  | CREATE TABLE "File" ( |
|  | id SERIAL NOT NULL, |
|  | path text NOT NULL, |
|  | publish\_date timestamp without time zone DEFAULT now() NOT NULL, |
|  | description text, |
|  | id\_user integer NOT NULL, |
|  | id\_task integer NOT NULL |
|  | ); |
|  |  |
|  | CREATE TABLE "Meeting" ( |
|  | id SERIAL NOT NULL, |
|  | date timestamp without time zone NOT NULL, |
|  | name text, |
|  | place text, |
|  | id\_board integer NOT NULL, |
|  | CONSTRAINT "CK1" CHECK ((date > now())) |
|  | ); |
|  |  |
|  | CREATE TABLE "Message" ( |
|  | id SERIAL NOT NULL, |
|  | message text NOT NULL, |
|  | date timestamp without time zone DEFAULT now() NOT NULL, |
|  | id\_user integer NOT NULL, |
|  | id\_project integer NOT NULL |
|  | ); |
|  |  |
|  | CREATE TABLE "Notification" ( |
|  | id SERIAL NOT NULL, |
|  | id\_user integer NOT NULL, |
|  | date timestamp without time zone DEFAULT now() NOT NULL, |
|  | notification text NOT NULL, |
|  | read boolean DEFAULT false NOT NULL |
|  | ); |
|  |  |
|  | CREATE TABLE "Personal\_event" ( |
|  | id SERIAL NOT NULL, |
|  | date timestamp without time zone NOT NULL, |
|  | place text, |
|  | name text, |
|  | id\_user integer NOT NULL, |
|  | CONSTRAINT "CK1" CHECK ((date > now())) |
|  | ); |
|  |  |
|  | CREATE TABLE "Profile\_picture" ( |
|  | id SERIAL NOT NULL, |
|  | id\_user integer NOT NULL, |
|  | path text NOT NULL |
|  | ); |
|  |  |
|  | CREATE TABLE "Progress\_update" ( |
|  | id SERIAL NOT NULL, |
|  | date timestamp without time zone DEFAULT now() NOT NULL, |
|  | new\_value integer NOT NULL, |
|  | id\_user integer NOT NULL, |
|  | id\_task integer NOT NULL, |
|  | CONSTRAINT "CK1" CHECK ((new\_value > 0)), |
|  | CONSTRAINT "CK2" CHECK ((new\_value <= 100)) |
|  | ); |
|  |  |
|  | CREATE TABLE "Project" ( |
|  | id SERIAL NOT NULL, |
|  | description text, |
|  | start\_date timestamp without time zone DEFAULT now() NOT NULL, |
|  | end\_date date, |
|  | name text NOT NULL, |
|  | id\_coordinator integer NOT NULL, |
|  | project\_state state DEFAULT 'In\_progress' NOT NULL, |
|  | privacy boolean DEFAULT false NOT NULL, |
|  | user\_archived integer, |
|  | CONSTRAINT "CK1" CHECK ((end\_date > start\_date)) |
|  | ); |
|  |  |
|  | CREATE TABLE "Project\_picture" ( |
|  | id SERIAL NOT NULL, |
|  | id\_project integer NOT NULL, |
|  | path text NOT NULL |
|  | ); |
|  |  |
|  | CREATE TABLE "Project\_team" ( |
|  | id\_user integer NOT NULL, |
|  | id\_project integer NOT NULL |
|  | ); |
|  |  |
|  | CREATE TABLE "Task" ( |
|  | id SERIAL NOT NULL, |
|  | budget money, |
|  | deadline date NOT NULL, |
|  | description text, |
|  | name text NOT NULL, |
|  | progress integer DEFAULT 0 NOT NULL, |
|  | task\_state state DEFAULT 'In\_progress' NOT NULL, |
|  | id\_creator integer NOT NULL, |
|  | id\_board integer NOT NULL, |
|  | CONSTRAINT "CK1" CHECK ((progress > 0)), |
|  | CONSTRAINT "CK2" CHECK ((progress <= 100)) |
|  | ); |
|  |  |
|  | CREATE TABLE "User" ( |
|  | id SERIAL NOT NULL, |
|  | "e\_mail" text NOT NULL, |
|  | full\_name text, |
|  | password text NOT NULL, |
|  | "url" text NOT NULL, |
|  | username text NOT NULL, |
|  | administrator boolean DEFAULT false NOT NULL, |
|  | user\_ban integer |
|  | ); |
|  |  |
|  | -- |
|  | -- Primary Keys and Uniques |
|  | -- |
|  |  |
|  | ALTER TABLE ONLY "Board" |
|  | ADD CONSTRAINT "Board\_pkey" PRIMARY KEY (id); |
|  |  |
|  | ALTER TABLE ONLY "Board\_team" |
|  | ADD CONSTRAINT "Board\_team\_pkey" PRIMARY KEY (id\_board, id\_user); |
|  |  |
|  | ALTER TABLE ONLY "Comment" |
|  | ADD CONSTRAINT "Comment\_pkey" PRIMARY KEY (id); |
|  |  |
|  | ALTER TABLE ONLY "Contact" |
|  | ADD CONSTRAINT "Contact\_pkey" PRIMARY KEY (id\_user, id\_contact); |
|  |  |
|  | ALTER TABLE ONLY "File" |
|  | ADD CONSTRAINT "File\_path\_key" UNIQUE (path); |
|  |  |
|  | ALTER TABLE ONLY "File" |
|  | ADD CONSTRAINT "File\_pkey" PRIMARY KEY (id); |
|  |  |
|  | ALTER TABLE ONLY "Meeting" |
|  | ADD CONSTRAINT "Meeting\_pkey" PRIMARY KEY (id); |
|  |  |
|  | ALTER TABLE ONLY "Message" |
|  | ADD CONSTRAINT "Message\_pkey" PRIMARY KEY (id); |
|  |  |
|  | ALTER TABLE ONLY "Notification" |
|  | ADD CONSTRAINT "Notification\_pkey" PRIMARY KEY (id); |
|  |  |
|  | ALTER TABLE ONLY "Personal\_event" |
|  | ADD CONSTRAINT "Personal\_event\_pkey" PRIMARY KEY (id); |
|  |  |
|  | ALTER TABLE ONLY "Profile\_picture" |
|  | ADD CONSTRAINT "Profile\_picture\_path\_key" UNIQUE (path); |
|  |  |
|  | ALTER TABLE ONLY "Profile\_picture" |
|  | ADD CONSTRAINT "Profile\_picture\_pkey" PRIMARY KEY (id); |
|  |  |
|  | ALTER TABLE ONLY "Progress\_update" |
|  | ADD CONSTRAINT "Progress\_update\_pkey" PRIMARY KEY (id); |
|  |  |
|  | ALTER TABLE ONLY "Project\_picture" |
|  | ADD CONSTRAINT "Project\_picture\_path\_key" UNIQUE (path); |
|  |  |
|  | ALTER TABLE ONLY "Project\_picture" |
|  | ADD CONSTRAINT "Project\_picture\_pkey" PRIMARY KEY (id); |
|  |  |
|  | ALTER TABLE ONLY "Project" |
|  | ADD CONSTRAINT "Project\_pkey" PRIMARY KEY (id); |
|  |  |
|  | ALTER TABLE ONLY "Project\_team" |
|  | ADD CONSTRAINT "Project\_team\_pkey" PRIMARY KEY (id\_user, id\_project); |
|  |  |
|  | ALTER TABLE ONLY "Task" |
|  | ADD CONSTRAINT "Task\_pkey" PRIMARY KEY (id); |
|  |  |
|  | ALTER TABLE ONLY "User" |
|  | ADD CONSTRAINT "User\_url\_key" UNIQUE ("url"); |
|  |  |
|  | ALTER TABLE ONLY "User" |
|  | ADD CONSTRAINT "User\_e\_mail\_key" UNIQUE ("e\_mail"); |
|  |  |
|  | ALTER TABLE ONLY "User" |
|  | ADD CONSTRAINT "User\_pkey" PRIMARY KEY (id); |
|  |  |
|  | ALTER TABLE ONLY "User" |
|  | ADD CONSTRAINT "User\_username\_key" UNIQUE (username); |
|  |  |
|  | -- |
|  | -- Foreign Keys |
|  | -- |
|  |  |
|  | ALTER TABLE ONLY "Board" |
|  | ADD CONSTRAINT "Board\_id\_creator\_fkey" FOREIGN KEY (id\_creator) REFERENCES "User"(id); |
|  |  |
|  | ALTER TABLE ONLY "Board" |
|  | ADD CONSTRAINT "Board\_id\_project\_fkey" FOREIGN KEY (id\_project) REFERENCES "Project"(id); |
|  |  |
|  | ALTER TABLE ONLY "Board\_team" |
|  | ADD CONSTRAINT "Board\_team\_id\_board\_fkey" FOREIGN KEY (id\_board) REFERENCES "Board"(id); |
|  |  |
|  | ALTER TABLE ONLY "Board\_team" |
|  | ADD CONSTRAINT "Board\_team\_id\_user\_fkey" FOREIGN KEY (id\_user) REFERENCES "User"(id); |
|  |  |
|  | ALTER TABLE ONLY "Comment" |
|  | ADD CONSTRAINT "Comment\_id\_task\_fkey" FOREIGN KEY (id\_task) REFERENCES "Task"(id); |
|  |  |
|  | ALTER TABLE ONLY "Comment" |
|  | ADD CONSTRAINT "Comment\_id\_user\_fkey" FOREIGN KEY (id\_user) REFERENCES "User"(id); |
|  |  |
|  | ALTER TABLE ONLY "Contact" |
|  | ADD CONSTRAINT "Contact\_id\_contact\_fkey" FOREIGN KEY (id\_contact) REFERENCES "User"(id); |
|  |  |
|  | ALTER TABLE ONLY "Contact" |
|  | ADD CONSTRAINT "Contact\_id\_user\_fkey" FOREIGN KEY (id\_user) REFERENCES "User"(id); |
|  |  |
|  | ALTER TABLE ONLY "File" |
|  | ADD CONSTRAINT "File\_id\_task\_fkey" FOREIGN KEY (id\_task) REFERENCES "Task"(id); |
|  |  |
|  | ALTER TABLE ONLY "File" |
|  | ADD CONSTRAINT "File\_id\_user\_fkey" FOREIGN KEY (id\_user) REFERENCES "User"(id); |
|  |  |
|  | ALTER TABLE ONLY "Meeting" |
|  | ADD CONSTRAINT "Meeting\_id\_board\_fkey" FOREIGN KEY (id\_board) REFERENCES "Board"(id); |
|  |  |
|  | ALTER TABLE ONLY "Message" |
|  | ADD CONSTRAINT "Message\_id\_project\_fkey" FOREIGN KEY (id\_project) REFERENCES "Project"(id); |
|  |  |
|  | ALTER TABLE ONLY "Message" |
|  | ADD CONSTRAINT "Message\_id\_user\_fkey" FOREIGN KEY (id\_user) REFERENCES "User"(id); |
|  |  |
|  | ALTER TABLE ONLY "Notification" |
|  | ADD CONSTRAINT "Notification\_id\_user\_fkey" FOREIGN KEY (id\_user) REFERENCES "User"(id); |
|  |  |
|  | ALTER TABLE ONLY "Personal\_event" |
|  | ADD CONSTRAINT "Personal\_event\_id\_user\_fkey" FOREIGN KEY (id\_user) REFERENCES "User"(id); |
|  |  |
|  | ALTER TABLE ONLY "Profile\_picture" |
|  | ADD CONSTRAINT "Profile\_picture\_id\_user\_fkey" FOREIGN KEY (id\_user) REFERENCES "User"(id); |
|  |  |
|  | ALTER TABLE ONLY "Progress\_update" |
|  | ADD CONSTRAINT "Progress\_update\_id\_task\_fkey" FOREIGN KEY (id\_task) REFERENCES "Task"(id); |
|  |  |
|  | ALTER TABLE ONLY "Progress\_update" |
|  | ADD CONSTRAINT "Progress\_update\_id\_user\_fkey" FOREIGN KEY (id\_user) REFERENCES "User"(id); |
|  |  |
|  | ALTER TABLE ONLY "Project" |
|  | ADD CONSTRAINT "Project\_id\_coordinator\_fkey" FOREIGN KEY (id\_coordinator) REFERENCES "User"(id); |
|  |  |
|  | ALTER TABLE ONLY "Project" |
|  | ADD CONSTRAINT "Project\_user\_archived\_fkey" FOREIGN KEY (user\_archived) REFERENCES "User"(id); |
|  |  |
|  | ALTER TABLE ONLY "Project\_picture" |
|  | ADD CONSTRAINT "Project\_picture\_id\_project\_fkey" FOREIGN KEY (id\_project) REFERENCES "Project"(id); |
|  |  |
|  | ALTER TABLE ONLY "Project\_team" |
|  | ADD CONSTRAINT "Project\_team\_id\_project\_fkey" FOREIGN KEY (id\_project) REFERENCES "Project"(id); |
|  |  |
|  | ALTER TABLE ONLY "Project\_team" |
|  | ADD CONSTRAINT "Project\_team\_id\_user\_fkey" FOREIGN KEY (id\_user) REFERENCES "User"(id); |
|  |  |
|  | ALTER TABLE ONLY "Task" |
|  | ADD CONSTRAINT "Task\_id\_board\_fkey" FOREIGN KEY (id\_board) REFERENCES "Board"(id); |
|  |  |
|  | ALTER TABLE ONLY "Task" |
|  | ADD CONSTRAINT "Task\_id\_creator\_fkey" FOREIGN KEY (id\_creator) REFERENCES "User"(id); |
|  |  |
|  | ALTER TABLE ONLY "User" |
|  | ADD CONSTRAINT "User\_user\_ban\_fkey" FOREIGN KEY (user\_ban) REFERENCES "User"(id); |

**Database population**

|  |
| --- |
| --- USERS --- |
|  | ------------- |
|  |  |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username, administrator) VALUES ('up201405655@fe.up.pt', 'Teresa Valério', 'teresaMaya19', 444, 'TeresaValerio', true) |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username, administrator) VALUES ('up201402784@fe.up.pt', 'Inês Gonçalves', 'inesggtunafe8', 123, 'InesGoncalves', true) |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username, administrator) VALUES ('up201405085@fe.up.pt', 'Sara Gomes', 'sara23bolota', 635,'SaraGomes', true) |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username, administrator) VALUES ('joana.monteiro@hotmail.com', 'Joana Monteiro', 'QWERTY', 883,'JoanaMonteiro45', false) |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username) VALUES ('maria.costa12@hotmail.com', 'Maria João Costa', 'palavrapasse123', 713,'MJCosta14') |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username) VALUES ('joaoo\_santos@hotmail.com', 'João Costa Santos', 'SG234StbtQ', 790,'JoaoCS18') |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username) VALUES ('luis134castro@hotmail.com', 'Luís Castro', 'BB13fsRg6', 253,'LuisCastro') |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username) VALUES ('up201404541@fe.up.pt', 'Francisca Seabra', 'BETHDDD', 662,'FSeabra') |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username, administrator) VALUES ('lacinia.orci.consectetuer@velarcu.ca','Noelle Moran','PMR97BRV5EC', 621,'NoelleMoran44', false) |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username, administrator) VALUES ('ipsum.nunc.id@scelerisquemollis.edu' ,'MacKenzie Garrison', 'YUY23IUO9RC', 412,'MKenzieG', false) |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username) VALUES ('urna.Vivamus.molestie@Fusce.net', 'Isadora Hewitt', 'BUE71FOD5OI', 914,'HIsadora23') |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username, administrator) VALUES ('tincidunt@tinciduntduiaugue.com', 'Lacota Page', 'GPB35FPL2TB', 515,'LacotaPagee', false) |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username, administrator) VALUES ('ac.risus.Morbi@mauris.co.uk', 'Priscilla Silva', 'UPK14PEJ2DZ',328 ,'SilvaP47', false) |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username, administrator) VALUES ('eu@tellus.net', 'Lynn Burch', 'IGU81EUU7UB', 555,'lynn29', false) |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username) VALUES ('nascetur.ridiculus@nonmassa.net', 'Jocelyn Fulton', 'IEV88RCI7LT', 181,'Fulton') |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username, administrator) VALUES ('sem@consequatauctornunc.co.uk', 'Tashya Deleon', 'LZJ76NCB9QP', 741,'deleonTashya', false) |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username, administrator) VALUES ('et.euismod.et@pharetraNamac.net', 'Lillian Snow', 'MYX34BPA2RK', 301,'lillian', false) |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username) VALUES ('cursus.Nunc@vitaeeratVivamus.edu', 'Margaret Mack', 'NRZ16ICN4NL', 215,'Margarety') |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username) VALUES ('vel.faucibus.id@lacinia.edu' ,'Martha Cain', 'OGM48BTU8UO',590 ,'MarthaCain') |
|  | INSERT INTO "User" (e\_mail, full\_name, password, url, username) VALUES ('fi1996@gmail.com' ,'Filipa Soares', 'GLsn36d',506 ,'FiSoares45') |
|  |  |
|  |  |
|  | --- PROJECTS --- |
|  | ---------------- |
|  |  |
|  | INSERT INTO "Project" (description, start\_date, end\_date, name, id\_coordinator, project\_state, privacy) VALUES ('Projeto de LIEB para deteção de apneia do sono', TIMESTAMP '2018/03/04', timestamp '2019/05/18', 'Hypnos', 1, 'In\_progress', true) |
|  | INSERT INTO "Project" (start\_date, end\_date, name, id\_coordinator, project\_state) VALUES (TIMESTAMP '2018/02/20', TIMESTAMP '2019/05/25 24:00:00', 'Fotopletismógrafo portátil', 1, 'In\_progress') |
|  | INSERT INTO "Project" (start\_date, end\_date, name, id\_coordinator) VALUES (TIMESTAMP '2018/03/1', TIMESTAMP '2019/06/10 9:00:00', 'Estudo da doença de Alzheimer através de análise de imagens do cérebro', 3) |
|  | INSERT INTO "Project" (description, start\_date, end\_date, name, id\_coordinator, project\_state, privacy) VALUES ('Deteção de emoções através da análise de sinais de EEG', TIMESTAMP '2018/03/14', timestamp '2019/09/18', 'EEG feelings', 4, 'In\_progress', true) |
|  | INSERT INTO "Project" (start\_date, end\_date, name, id\_coordinator, project\_state, privacy) VALUES (TIMESTAMP '2018/02/15', TIMESTAMP '2019/05/30', 'Projeto MINV', 20, 'In\_progress', false) |
|  |  |
|  |  |
|  | --- PROJECT'S TEAMS --- |
|  | ----------------------- |
|  |  |
|  | INSERT INTO "Project\_team" (id\_user, id\_project) VALUES (3,1) |
|  | INSERT INTO "Project\_team" (id\_user, id\_project) VALUES (8,1) |
|  | INSERT INTO "Project\_team" (id\_user, id\_project) VALUES (3,2) |
|  | INSERT INTO "Project\_team" (id\_user, id\_project) VALUES (16,3) |
|  | INSERT INTO "Project\_team" (id\_user, id\_project) VALUES (5,4) |
|  | INSERT INTO "Project\_team" (id\_user, id\_project) VALUES (6,4) |
|  | INSERT INTO "Project\_team" (id\_user, id\_project) VALUES (7,4) |
|  | INSERT INTO "Project\_team" (id\_user, id\_project) VALUES (8,4) |
|  | INSERT INTO "Project\_team" (id\_user, id\_project) VALUES (9,4) |
|  | INSERT INTO "Project\_team" (id\_user, id\_project) VALUES (10,4) |
|  | INSERT INTO "Project\_team" (id\_user, id\_project) VALUES (11,4) |
|  | INSERT INTO "Project\_team" (id\_user, id\_project) VALUES (1,5) |
|  | INSERT INTO "Project\_team" (id\_user, id\_project) VALUES (3,5) |
|  |  |
|  |  |
|  | --- PROJECT'S BOARDS --- |
|  | ------------------------ |
|  |  |
|  | INSERT INTO "Board" (description, name, id\_creator, id\_project) VALUES ('Pesquisa de fundamentos teóricos que servirão de base à implementação de código', 'Pesquisa', 1, 1) |
|  | INSERT INTO "Board" (description, name, id\_creator, id\_project) VALUES ('Pesquisa sobre funcionamento da fotopletismografia e métodos a adotar', 'Pesquisa', 3, 2) |
|  | INSERT INTO "Board" (name, id\_creator, id\_project) VALUES ('Construção circuito', 3, 2) |
|  | INSERT INTO "Board" (description, name, id\_creator, id\_project) VALUES ('Pesquisa de possíveis técnicas a adotar', 'Pesquisa', 3, 3) |
|  | INSERT INTO "Board" (description, name, id\_creator, id\_project) VALUES ('Procurar artigos sobre projetos semelhantes', 'Artigos', 7, 4) |
|  | INSERT INTO "Board" (description, name, id\_creator, id\_project) VALUES ('Pesquisar acerca do EEC e possíveis maneiras de o analisar', 'Pesquisa EEG', 9, 4) |
|  | INSERT INTO "Board" (description, name, id\_creator, id\_project) VALUES ('Pesquisa de artigos relacionados com o tema', 'Pesquisa bibliográfica', 1, 5) |
|  | INSERT INTO "Board" (description, name, id\_creator, id\_project) VALUES ('Elaboração do questionário sob a forma de Google Form', 'Questionário', 20, 5) |
|  | INSERT INTO "Board" (description, name, id\_creator, id\_project) VALUES ('Elaboração do guião da entrevista', 'Entrevista', 3, 5) |
|  |  |
|  |  |
|  | --- BOARD'S TASKS --- |
|  | --------------------- |
|  |  |
|  | INSERT INTO "Task" (deadline, description, name, progress, task\_state, id\_creator, id\_board) VALUES(TIMESTAMP '2019/05/1', 'Pesquisa em várias fontes bibliográficas relativamente ao que causa a apneia e como poderá ser detetada' , 'Pesquisa sobre apneia', 10, 'In\_progress', 1, 1) |
|  | INSERT INTO "Task" (deadline, description, name, progress, task\_state, id\_creator, id\_board) VALUES(TIMESTAMP '2019/05/10', 'Pesquisa sobre fotopletismografia (como funciona, que método utilizar, etc)' , 'Pesquisa fotopletismografia', 40, 'In\_progress', 3, 2) |
|  | INSERT INTO "Task" (deadline, description, name, progress, task\_state, id\_creator, id\_board) VALUES(TIMESTAMP '2019/05/15', 'Pesquisar melhor sensor a utilizar e possíveis circuitos a implementar' , 'Pesquisa circuito', 30, 'In\_progress', 3, 2) |
|  | INSERT INTO "Task" (deadline, description, name, progress, task\_state, id\_creator, id\_board) VALUES(TIMESTAMP '2019/05/10', 'Pesquisa sobre o que é a doença de Alzheimer e que efeitos tem no cérebro humano' , 'Pesquisa sobre Alzheimer', 30, 'In\_progress', 3, 3) |
|  | INSERT INTO "Task" (deadline, description, name, progress, task\_state, id\_creator, id\_board) VALUES(TIMESTAMP '2019/05/20', 'Pesquisa sobre possíveis técnicas de análise de imagem a adotar e base de dados a utilizar' , 'Técnicas de análise de imagem', 20, 'In\_progress', 3, 3) |
|  | INSERT INTO "Task" (deadline, description, name, progress, task\_state, id\_creator, id\_board) VALUES(TIMESTAMP '2019/06/24', 'O que é o EEG, como é obtido e que informação nos dá?', 'Fundamentos EEG', 60, 'In\_progress', 8, 4) |
|  | INSERT INTO "Task" (deadline, description, name, progress, task\_state, id\_creator, id\_board) VALUES(TIMESTAMP '2019/06/30', 'Pesquisa de processamentos a adotar para analisar o sinal EEG', 'Processamento EEG', 10, 'In\_progress', 6, 4) |
|  | INSERT INTO "Task" (deadline, description, name, progress, task\_state, id\_creator, id\_board) VALUES(TIMESTAMP '2019/04/22', 'Pesquisa sobre a estrutura que um questionário deve ter (quantidade/tipo de perguntas, etc)', 'Estrutura questionário', 40, 'In\_progress', 1, 8) |
|  | INSERT INTO "Task" (deadline, name, progress, task\_state, id\_creator, id\_board) VALUES(TIMESTAMP '2019/04/30', 'Elaboração questionário', 10, 'In\_progress', 20, 8) |
|  | INSERT INTO "Task" (deadline, name, progress, task\_state, id\_creator, id\_board) VALUES(TIMESTAMP '2019/04/25', 'Como fazer uma entrevista?', 50, 'In\_progress', 3, 9) |
|  | INSERT INTO "Task" (deadline, name, progress, task\_state, id\_creator, id\_board) VALUES(TIMESTAMP '2019/04/27', 'Guião da entervista', 10, 'In\_progress', 1, 9) |
|  | INSERT INTO "Task" (deadline, name, progress, task\_state, id\_creator, id\_board) VALUES(TIMESTAMP '2019/05/10', 'Realização das entervista', 10, 'In\_progress', 20, 9) |
|  |  |
|  |  |
|  | --- BOARD'S TEAMS --- |
|  | --------------------- |
|  |  |
|  | INSERT INTO "Board\_team" VALUES (3,1) |
|  | INSERT INTO "Board\_team" VALUES (2,1) |
|  | INSERT INTO "Board\_team" VALUES (4,16) |
|  | INSERT INTO "Board\_team" VALUES (5,5) |
|  | INSERT INTO "Board\_team" VALUES (5,1) |
|  | INSERT INTO "Board\_team" VALUES (5,8) |
|  | INSERT INTO "Board\_team" VALUES (5,11) |
|  | INSERT INTO "Board\_team" VALUES (6,6) |
|  | INSERT INTO "Board\_team" VALUES (6,1) |
|  | INSERT INTO "Board\_team" VALUES (6,8) |
|  | INSERT INTO "Board\_team" VALUES (6,9) |
|  | INSERT INTO "Board\_team" VALUES (6,10) |
|  | INSERT INTO "Board\_team" VALUES (6,11) |
|  |  |
|  |  |
|  | --- COMMENTS --- |
|  | ---------------- |
|  |  |
|  | INSERT INTO "Comment" (comment, date, id\_user, id\_task) VALUES ('SFH7050 já não pode ser utilizado!', TIMESTAMP '2018/03/25 12:50:04', 1, 3) |
|  | INSERT INTO "Comment" (comment, date, id\_user, id\_task) VALUES ('Não está a ser possível fazer o download da base de dados', TIMESTAMP '2018/03/19 19:24:34', 3, 5) |
|  | INSERT INTO "Comment" (comment, date, id\_user, id\_task) VALUES ('Ver apontamentos da aula prática!', TIMESTAMP '2018/03/27 17:58:02', 20, 8) |
|  |  |
|  |  |
|  | --- MEETINGS --- |
|  | ---------------- |
|  |  |
|  | INSERT INTO "Meeting" (date, place, id\_board) VALUES (TIMESTAMP '2018/04/10 11:00:00', 'Departamento de Bioenganheria', 1) |
|  | INSERT INTO "Meeting" (date, place, id\_board) VALUES (TIMESTAMP '2018/04/17 09:30:00', 'Departamento de Bioenganheria', 1) |
|  | INSERT INTO "Meeting" (date, place, id\_board) VALUES (TIMESTAMP '2018/04/07 14:00:00', 'I007', 2) |
|  | INSERT INTO "Meeting" (date, place, id\_board) VALUES (TIMESTAMP '2018/06/20 14:00:00', 'I007', 3) |
|  | INSERT INTO "Meeting" (date, place, id\_board) VALUES (TIMESTAMP '2018/04/20 15:30:00', 'INESC', 4) |
|  | INSERT INTO "Meeting" (date, place, id\_board) VALUES (TIMESTAMP '2018/04/23 10:30:00', 'B118', 5) |
|  | INSERT INTO "Meeting" (date, place, id\_board) VALUES (TIMESTAMP '2018/04/20 10:00:00', 'B005', 6) |
|  | INSERT INTO "Meeting" (date, place, id\_board) VALUES (TIMESTAMP '2018/04/06 17:00:00', 'Sala de bio', 7) |
|  | INSERT INTO "Meeting" (date, place, id\_board) VALUES (TIMESTAMP '2018/04/10 15:00:00', 'B223', 8) |
|  | INSERT INTO "Meeting" (date, place, id\_board) VALUES (TIMESTAMP '2018/04/13 09:20:00', 'B019', 9) |
|  |  |
|  |  |
|  | --- MESSAGE --- |
|  | --------------- |
|  |  |
|  | INSERT INTO "Message" (date, message, id\_user, id\_project) VALUES (TIMESTAMP '2018/04/02 15:02:46', 'Não esquecer que a interface do programa deve ser feita em Java!!', 3, 1) |
|  | INSERT INTO "Message" (date, message, id\_user, id\_project) VALUES (TIMESTAMP '2018/03/21 10:24:06', 'Ter em conta que o circuito deve ser de dimensões reduzidas, uma vez que deve ser portátil', 1, 2) |
|  |  |
|  |  |
|  | --- PERSONAL EVENTS --- |
|  | ----------------------- |
|  |  |
|  | INSERT INTO "Personal\_event" (date, name, id\_user) VALUES (TIMESTAMP '2018/04/14', 'Aniversário mãe', 1) |
|  | INSERT INTO "Personal\_event" (date, name, place, id\_user) VALUES (TIMESTAMP '2018/04/10', 'Almoço com o António', 'Casa do António', 2) |
|  | INSERT INTO "Personal\_event" (date, name, id\_user) VALUES (TIMESTAMP '2018/04/17 13:20:00', 'Ir buscar o João ao Aeroporto', 7) |
|  | INSERT INTO "Personal\_event" (date, name, id\_user) VALUES (TIMESTAMP '2018/04/21 18:00:00', 'Levar o João ao Aeroporto', 7) |
|  | INSERT INTO "Personal\_event" (date, name, id\_user) VALUES (TIMESTAMP '2018/04/10 18:30:00', 'Café com a Maria', 5) |
|  | INSERT INTO "Personal\_event" (date, name, id\_user) VALUES (TIMESTAMP '2018/05/18', 'Visitar a Joana', 5) |
|  | INSERT INTO "Personal\_event" (date, name, id\_user) VALUES (TIMESTAMP '2018/05/06', 'Dia da mãe!!', 8) |
|  | INSERT INTO "Personal\_event" (date, name, id\_user) VALUES (TIMESTAMP '2018/05/05', 'Aniversário da Maya', 3) |
|  |  |
|  |  |
|  | --- CONTACT --- |
|  | --------------- |
|  |  |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (1,2) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (1,3) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (1,4) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (1,8) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (2,3) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (2,1) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (2,5) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (3,16) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (4,6) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (4,7) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (4,9) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (4,11) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (5,6) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (5,9) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (6,4) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (6,10) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (7,11) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (8,5) |
|  | INSERT INTO "Contact" (id\_user, id\_contact) VALUES (8,9) |
|  |  |
|  |  |
|  | --- FILE --- |
|  | ------------ |
|  |  |
|  | INSERT INTO "File" (description, path, publish\_date, id\_user, id\_task) VALUES ('Referências bibliográficas apneia','https://docs.google.com/document/d/1KZ00yc2JSSUsC3EdrPWqTRZqUhBn4oIB-IR61YU7EHs/edit' , TIMESTAMP '2018/04/03 10:35:07', 1, 1 ) |
|  | INSERT INTO "File" (description, path, publish\_date, id\_user, id\_task) VALUES ('Fotopletismografia','http://www.peb.ufrj.br/teses/Tese0030\_2006\_03\_29.pdf' , TIMESTAMP '2018/04/03 10:35:07', 1, 2 ) |
|  | INSERT INTO "File" (description, path, publish\_date, id\_user, id\_task) VALUES ('Datasheet SFH7050','https://www.mouser.com/ds/2/311/SFH%207050,%20Lead%20(Pb)%20Free%20Product%20-%20RoHS%20Compliant-608232.pdf' , TIMESTAMP '2018/03/21 19:14:44', 1, 3 ) |
|  | INSERT INTO "File" (description, path, publish\_date, id\_user, id\_task) VALUES ('Datasheet TCRT1000','https://www.vishay.com/docs/83752/tcrt1000.pdf' , TIMESTAMP '2018/03/29 22:51:00', 1, 3 ) |
|  | INSERT INTO "File" (description, path, publish\_date, id\_user, id\_task) VALUES ('EEG','https://pt.wikipedia.org/wiki/Eletroencefalografia' , TIMESTAMP '2018/03/17 20:58:12', 8, 6 ) |
|  | INSERT INTO "File" (description, path, publish\_date, id\_user, id\_task) VALUES ('EEG','https://docs.google.com/forms/d/e/1FAIpQLSfa60Ny5pTFxZGpUwyCp6\_LiL5hKLWMZExoCpicrAqdcdR2uw/viewform' , TIMESTAMP '2018/03/03 17:49:22', 20, 9 ) |
|  |  |
|  |  |
|  | --- NOTIFICATION --- |
|  | -------------------- |
|  |  |
|  | INSERT INTO "Notification" (date, notification, read, id\_user) VALUES (TIMESTAMP '2018/03/04', 'Foi adicionado a um novo projeto "Hypnos" ', false, 3) |
|  | INSERT INTO "Notification" (date, notification, read, id\_user) VALUES (TIMESTAMP '2018/03/04', 'Foi adicionado a um novo projeto "Hypnos" ', false, 8) |
|  | INSERT INTO "Notification" (date, notification, read, id\_user) VALUES (TIMESTAMP '2018/03/02', 'Um utilizador deseja adiciona um novo colaborador ao seu projeto "Estudo da doença de Alzheimer através de análise de imagens do cérebro" ', false, 3) |
|  | INSERT INTO "Notification" (date, notification, read, id\_user) VALUES (TIMESTAMP '2018/03/04', 'Utilizador "Joana Monteiro" pediu para o adicionar à sua lista de contactos', false, 6) |
|  | INSERT INTO "Notification" (date, notification, read, id\_user) VALUES (TIMESTAMP '2018/03/04', 'Utilizador "Noelle Moran" pediu para o adicionar à sua lista de contactos', false, 8) |
|  |  |
|  |  |
|  | --- PROGRESS UPDATE --- |
|  | ----------------------- |
|  |  |
|  | INSERT INTO "Progress\_update" (date, new\_value, id\_user, id\_task) VALUES (TIMESTAMP '2018/04/03 10:40:45', 30, 1, 1) |
|  | INSERT INTO "Progress\_update" (date, new\_value, id\_user, id\_task) VALUES (TIMESTAMP '2018/04/03 10:37:23', 60, 3, 2) |
|  | INSERT INTO "Progress\_update" (date, new\_value, id\_user, id\_task) VALUES (TIMESTAMP '2018/04/04 11:07:15', 80, 3, 2) |
|  | INSERT INTO "Progress\_update" (date, new\_value, id\_user, id\_task) VALUES (TIMESTAMP '2018/03/21 19:16:35', 50, 1, 3) |
|  | INSERT INTO "Progress\_update" (date, new\_value, id\_user, id\_task) VALUES (TIMESTAMP '2018/03/29 22:52:05', 70, 1, 3) |
|  | INSERT INTO "Progress\_update" (date, new\_value, id\_user, id\_task) VALUES (TIMESTAMP '2018/03/27 14:46:35', 70, 8, 6) |
|  | INSERT INTO "Progress\_update" (date, new\_value, id\_user, id\_task) VALUES (TIMESTAMP '2018/03/03 18:35:17', 40, 20, 8) |
|  |  |
|  |  |
|  | --- PROFILE PICTURES --- |
|  | ------------------------ |
|  |  |
|  | INSERT INTO "Profile\_picture" (id\_user, path) VALUES (1, 'https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcTsAUelg7yg0mepGMf-N93hh6E9XrLnKwsKa4YEQ6swhDknk4F9eQ') |
|  | INSERT INTO "Profile\_picture" (id\_user, path) VALUES (2, 'https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcRHMdytMDJqBYz4eR2PpDUBMepUR7SxtOmPCNdIO5SUMQ2vdeH8') |
|  | INSERT INTO "Profile\_picture" (id\_user, path) VALUES (3, 'https://cdn4.iconfinder.com/data/icons/green-shopper/1068/user.png') |
|  | INSERT INTO "Profile\_picture" (id\_user, path) VALUES (4, 'http://icons.iconarchive.com/icons/paomedia/small-n-flat/1024/user-male-icon.png') |
|  | INSERT INTO "Profile\_picture" (id\_user, path) VALUES (5, 'https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQMrYqax\_J2xys7O57n0QcYyBXR-AGNwPGBmaw6j-xJXHyFwAu5') |
|  | INSERT INTO "Profile\_picture" (id\_user, path) VALUES (6, 'http://wfarm2.dataknet.com/static/resources/icons/set108/b5cdab07.png') |
|  | INSERT INTO "Profile\_picture" (id\_user, path) VALUES (7, 'https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQrLV\_ettEako62R\_lp4RcYFLKo0WKqxKaGpYlTzoaEeRVZXHnGfw') |
|  | INSERT INTO "Profile\_picture" (id\_user, path) VALUES (8, 'https://365psd.com/images/istock/previews/9353/93539553-flat-vector-avatar-face-character-person-portrait-user-icon.jpg') |
|  | INSERT INTO "Profile\_picture" (id\_user, path) VALUES (9, 'https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQMjO9lsBeDLzlm9780HyMXWa0c07DnpzPy\_CCYoc3kqX85WGh4Mw') |
|  |  |
|  |  |
|  | --- PROJECT PICTURES --- |
|  | ------------------------ |
|  |  |
|  | INSERT INTO "Project\_picture" (id\_project, path) VALUES (1, 'https://image.flaticon.com/icons/svg/552/552413.svg') |
|  | INSERT INTO "Project\_picture" (id\_project, path) VALUES (2, 'https://image.flaticon.com/icons/svg/490/490348.svg') |
|  | INSERT INTO "Project\_picture" (id\_project, path) VALUES (3, 'https://image.flaticon.com/icons/svg/40/40488.svg') |
|  | INSERT INTO "Project\_picture" (id\_project, path) VALUES (4, 'https://image.flaticon.com/icons/png/512/228/228437.png') |
|  | INSERT INTO "Project\_picture" (id\_project, path) VALUES (5, 'https://image.flaticon.com/icons/svg/124/124945.svg') |

Changes made to the first submission:

1. Changed Profile\_picture and Project\_picture estimated growth;

2. Changed SELECT01, in order to check if the e-mail already exists;

3. Removed indexes based on primary keys (INDEX02);

4. Changed INDEX07 to B-tree;

5. Removed TRIGGER02;

6. Added SQL code for the creation of the database;

7. Identified the document.

GROUP1734, 18/03/2018

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