

Titel: Vokabeltrainer

Klasse: 3AHIF

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Gruppe: 2

Kurzbeschreibung:

Fachübergreifend soll ein Informationssystem individuell oder in 2er-Gruppen entwickelt werden. Mittels einer Webapplikation sollen wesentliche Informationen für eine Anwendungsdomäne verwaltet werden können. Dazu erfolgt die Speicherung im Backend in einer relationalen Datenbank.

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1 Projektszenario

1.1 Thema

Ein Vokabeltrainer mit Lern- und Prüfmodus.

1.2 Gruppeninformationen

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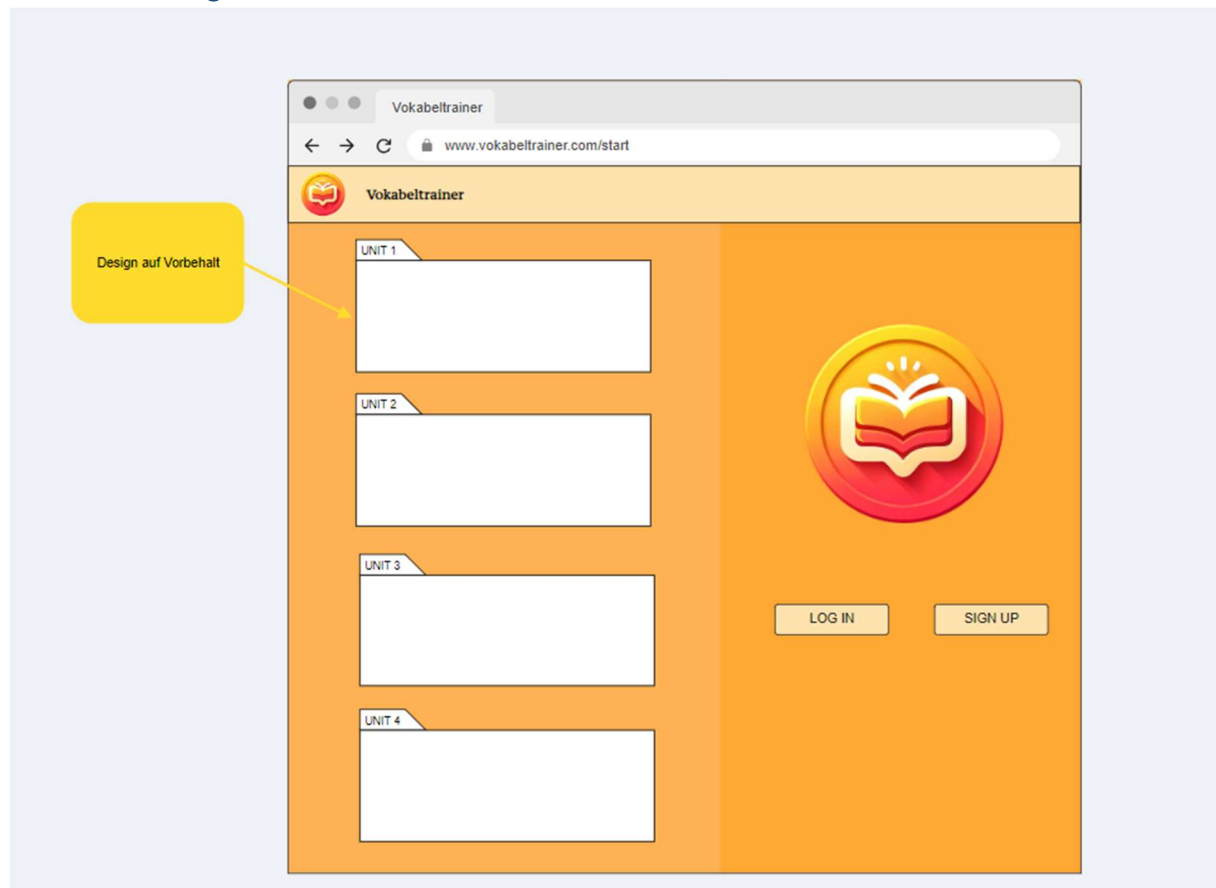
2 Spezifikation

2.1 Beschreibung

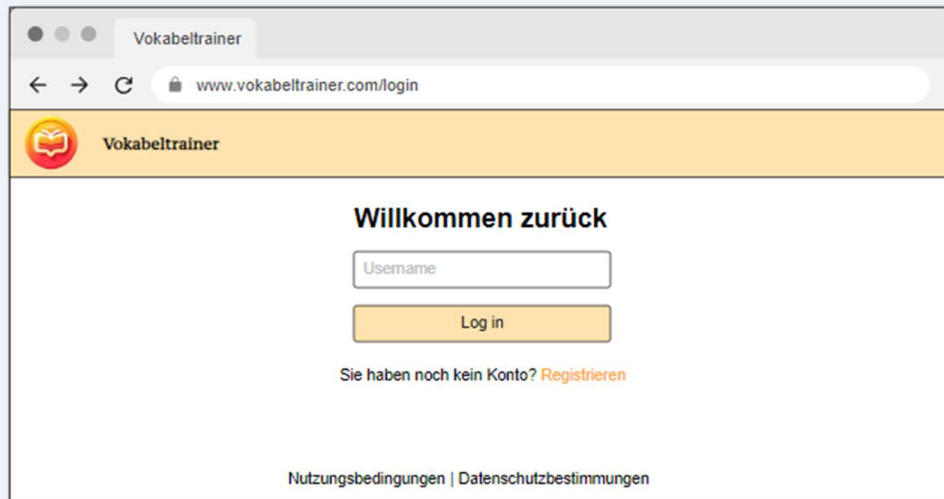
Wir haben uns für ein Vokabellernsystem mit Lernkarten und Kartendecks entschieden. Es gibt einen „Login“ mittels eines Usernamens. Das Teilen von Kartendecks an andere User ist ebenso möglich. Zu jeder Lernkarte werden Userstatistiken angelegt, um den Lernfortschritt beobachten zu können.

2.2 Mock-Ups

2.2.1 Start Page:



2.2.2 Login Page



The screenshot shows a web browser window with the title "Vokabeltrainer". The address bar displays "www.vokabeltrainer.com/login". The page features a yellow header with the Vokabeltrainer logo and name. The main content area has a white background with the heading "Willkommen zurück". Below this is a text input field labeled "Username" and a yellow "Log in" button. A link "Registrieren" is provided for users who do not have an account. At the bottom, there are links for "Nutzungsbedingungen" and "Datenschutzbestimmungen".

Vokabeltrainer

Willkommen zurück

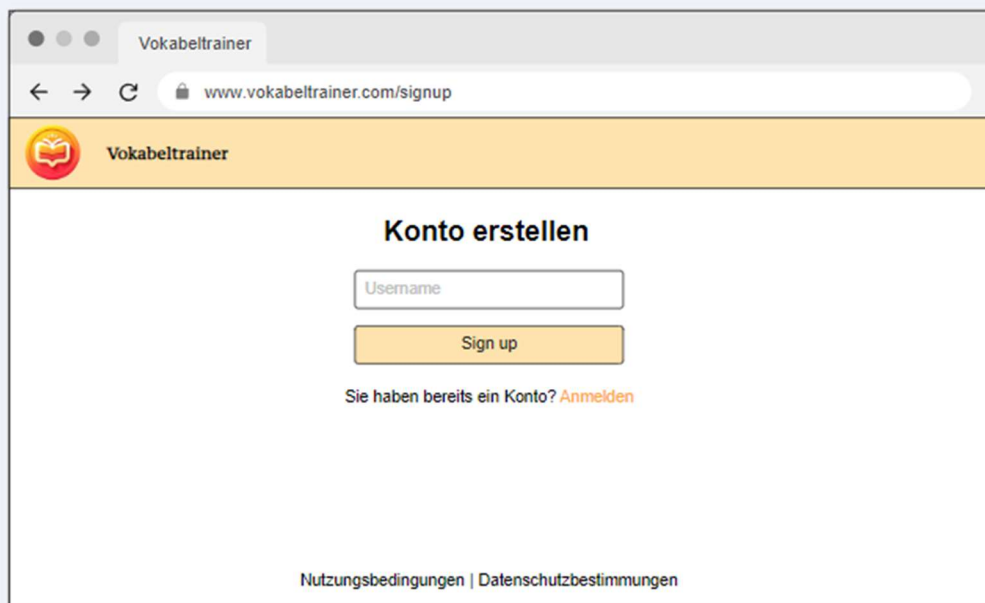
Username

Log in

Sie haben noch kein Konto? [Registrieren](#)

[Nutzungsbedingungen](#) | [Datenschutzbestimmungen](#)

2.2.3 Sign-Up Page:



The screenshot shows a web browser window with the title "Vokabeltrainer". The address bar displays "www.vokabeltrainer.com/signup". The page features a yellow header with the Vokabeltrainer logo and name. The main content area has a white background with the heading "Konto erstellen". Below this is a text input field labeled "Username" and a yellow "Sign up" button. A link "Anmelden" is provided for users who already have an account. At the bottom, there are links for "Nutzungsbedingungen" and "Datenschutzbestimmungen".

Vokabeltrainer

Konto erstellen

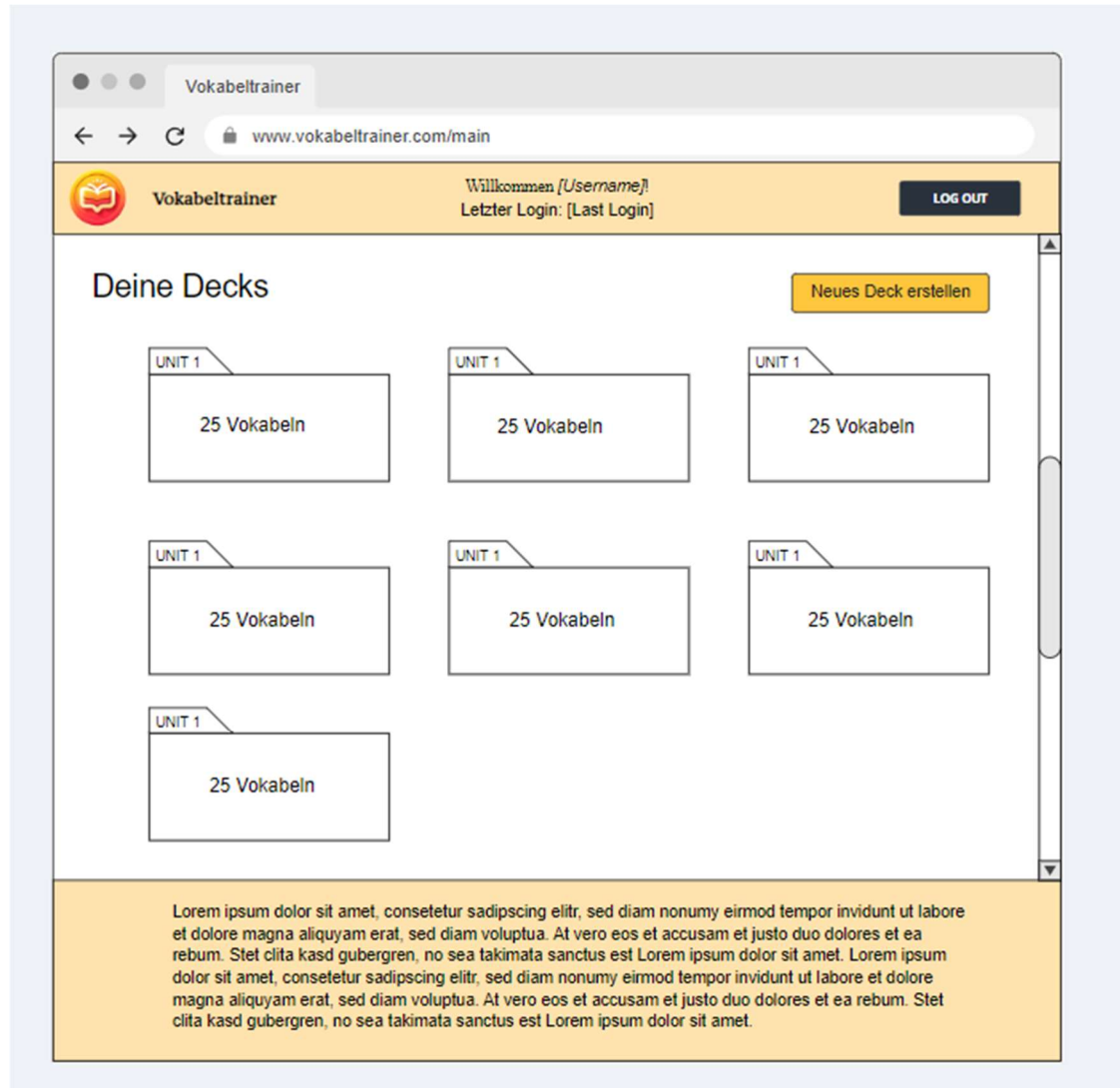
Username

Sign up

Sie haben bereits ein Konto? [Anmelden](#)

[Nutzungsbedingungen](#) | [Datenschutzbestimmungen](#)

2.2.4 Haupt Seite:




2.2.5 Seite zum erstellen eines Decks und von Flashcard

The screenshot shows the 'Neues Deck erstellen' page in the Vokabeltrainer web application. The browser address bar shows 'www.vokabeltrainer.com/newdeck'. The page has a yellow header with the Vokabeltrainer logo. The main content area is titled 'Neues Deck erstellen' and includes a red 'Abbrechen' button in the top right. Below the title, there are several input fields and buttons: 'Beschreibung', 'Sprache', 'Deck speichern', 'Front', 'Back', 'Karte hinzufügen', and 'Von CSV importieren'. A toggle switch labeled 'Bearbeitbar für andere User' is currently turned off. A text area for 'Teilen mit anderen Usern. Trennzeichen ;' is also present. At the bottom, there are three rows of flashcard examples, each with 'Entfernen' and 'Bearbeiten' buttons: 'Haus - house', 'Maus - mouse', and 'Tisch - table'.

2.2.6 Beispiel für das bearbeiten eines Decks mit Flashcards:

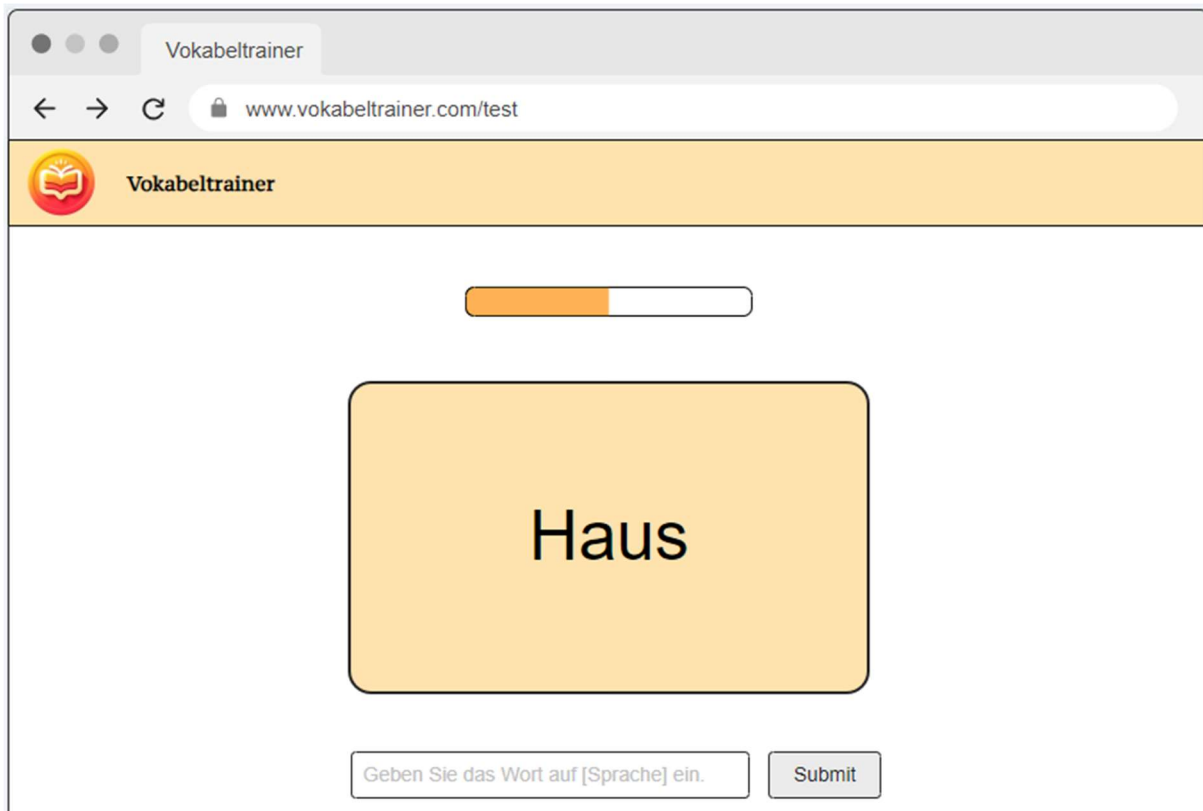
The screenshot shows the 'Deck Informationen' page in the Vokabeltrainer web application. The browser address bar shows 'www.vokabeltrainer.com/editdeck'. The page has a yellow header with the Vokabeltrainer logo. The main content area is titled 'Deck Informationen' and includes a red 'Deck löschen' button in the top right. Below the title, there are several input fields and buttons: 'UNIT 5', 'Englisch', 'Änderungen speichern', 'Tisch', 'table', 'Karte hinzufügen', and 'Von CSV importieren'. A toggle switch labeled 'Bearbeitbar für andere User' is currently turned on. A text area for 'Jakobqwr,J6k0b' is also present. At the bottom, there are three rows of flashcard examples, each with 'Entfernen' and 'Bearbeiten' buttons: 'Haus - house', 'Maus - mouse', and 'Tisch - table'. To the right of these examples, there are three buttons labeled 'Alle Statistiken zurücksetzen', 'Statistiken zurücksetzen', and 'Statistiken zurücksetzen'.

2.2.7 Lernmodus:



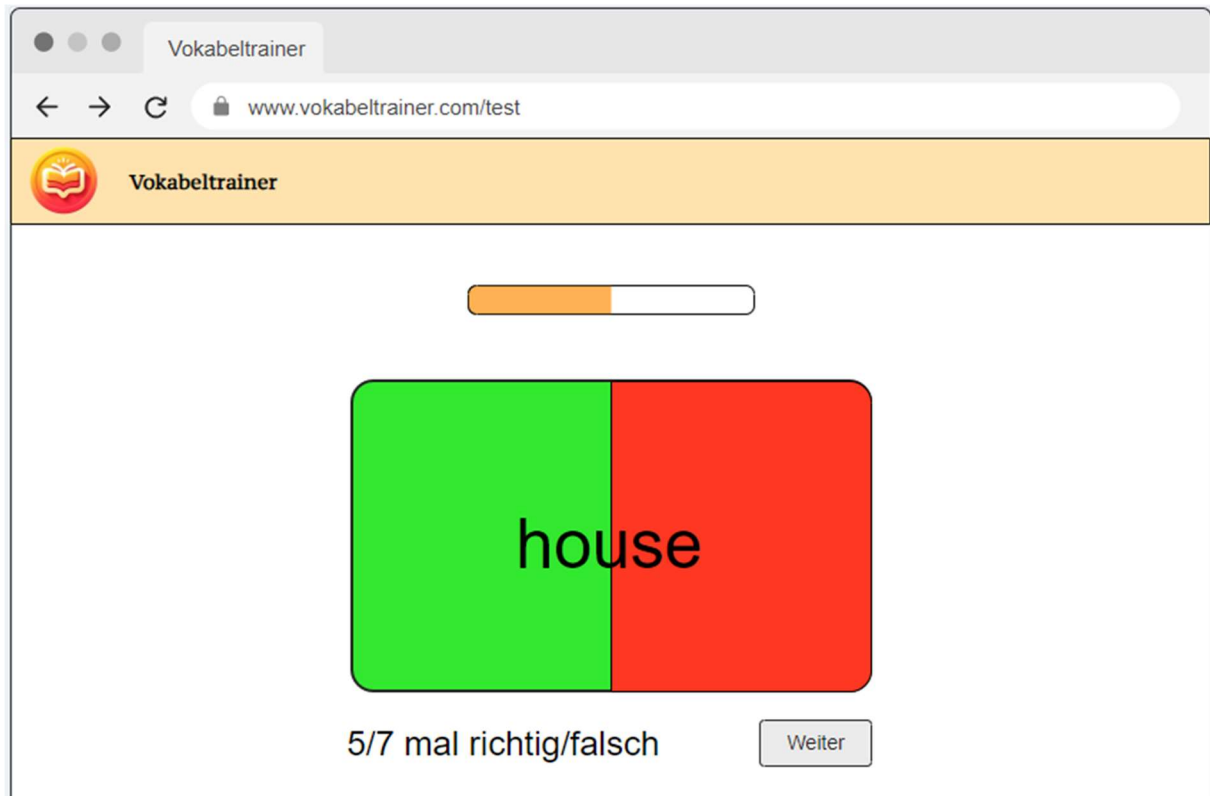
The screenshot shows the Vokabeltrainer website in the Learn Mode. The browser tab is labeled "Vokabeltrainer" and the address bar shows "www.vokabeltrainer.com/learn". The header bar is orange and contains the Vokabeltrainer logo on the left and the text "Du schaffst das!" on the right. Below the header, the text "UNIT 1" is displayed on the left, followed by a progress bar that is approximately one-third full. In the center, a large orange rounded rectangle contains the word "Haus". Below this rectangle, the text "3 richtig" is on the left and "2 falsch" is on the right. Between them are two buttons: a green button labeled "Richtig" and a red button labeled "Falsch".

2.2.8 Testmodus:



The screenshot shows the Vokabeltrainer website in the Test Mode. The browser tab is labeled "Vokabeltrainer" and the address bar shows "www.vokabeltrainer.com/test". The header bar is orange and contains the Vokabeltrainer logo on the left and the text "Du schaffst das!" on the right. Below the header, the text "UNIT 1" is displayed on the left, followed by a progress bar that is approximately one-third full. In the center, a large orange rounded rectangle contains the word "Haus". Below this rectangle, there is a text input field with the placeholder text "Geben Sie das Wort auf [Sprache] ein." and a "Submit" button to its right.

2.2.9 Testmodus – Submit



2.3 Relationsscheibweise

User(id, username, registrationDate, lastLogin, deleteTag)

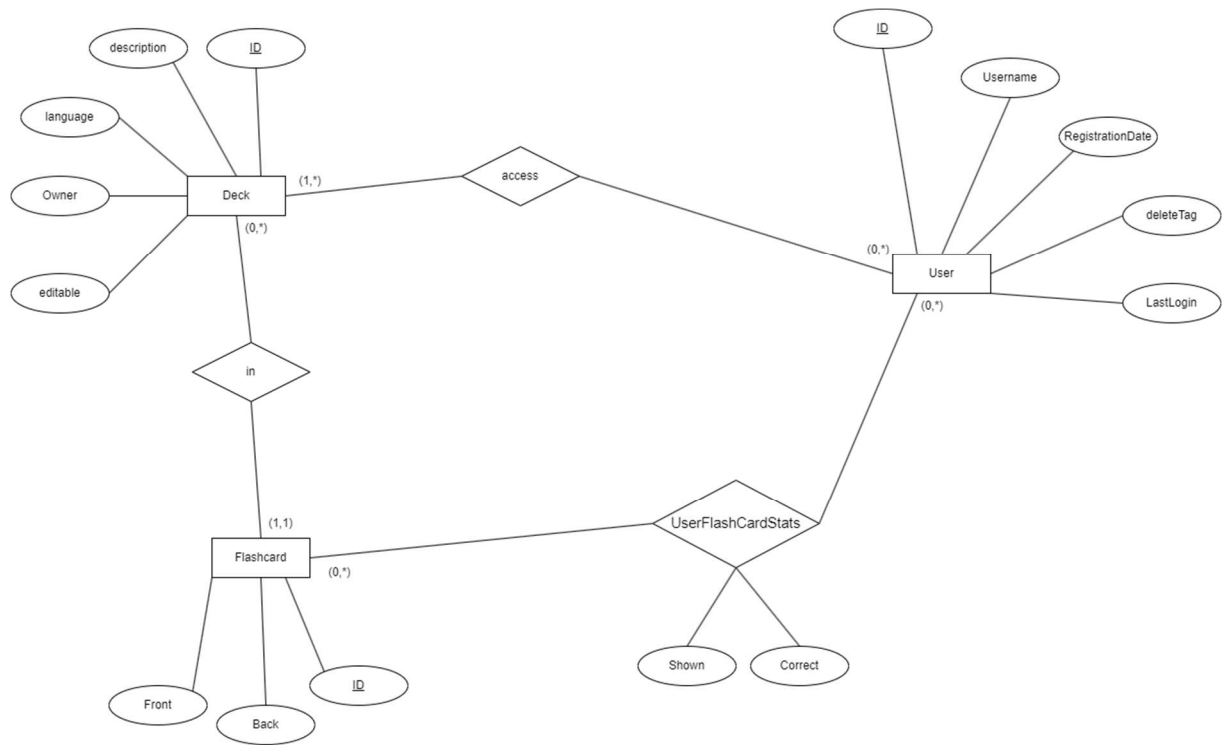
Deck(id, description, language, owner, editable)

Access (userId -> User, deckId -> Deck)

Flashcard(id, Front, Back, deckId -> Deck)

UserFlashCardStats(shown, correct, userId -> User, cardId -> Card)

3 ER-Modell



4 Datenkatalog

User			
Name	Typ	Constraint	Beispiel
<u>id</u>	INT	PRIMARY KEY IDENTITY	1
username	VARCHAR(100)	NOT NULL	Jakobqwr
registrationDate	DATE	NOT NULL	22.04.2024
lastLogin	DATETIME	NOT NULL	22.04.2024 11:15
deleteTag	BIT	DEFAULT 0 NOT NULL	0

Deck			
Name	Typ	Constraint	Beispiel
<u>id</u>	INT	PRIMARY KEY IDENTITY	1
description	VARCHAR(100)	NOT NULL	Unit 5
language	VARCHAR(100)	NOT NULL	English
owner	INT	NOT NULL	22
editable	BIT	DEFAULT 1 NOT NULL	1

Access			
Name	Typ	Constraint	Beispiel
<u>userId</u>	INT	NOT NULL	1
<u>deckId</u>	INT	NOT NULL	2

Flashcard			
Name	Typ	Constraint	Beispiel
<u>id</u>	INT	PRIMARY KEY IDENTITY	1
front	VARCHAR(100)	NOT NULL	Haus
back	VARCHAR(100)	NOT NULL	House
deckId	INT	NOT NULL	3

UserFlashCardStats			
Name	Typ	Constraints	Beispiel
<u>cardId</u>	INT	NOT NULL	1
<u>userId</u>	INT	NOT NULL	2
correct	INT	INT DEFAULT 0 NOT NULL	3
shown	INT	INT DEFAULT 0 NOT NULL	6

5 DDL-Skript

```
DROP SCHEMA IF EXISTS wmc CASCADE;
```

```
CREATE SCHEMA wmc;
```

```
DROP TABLE IF EXISTS wmc.UserFlashCardStats;
```

```
DROP TABLE IF EXISTS wmc.Flashcard;
```

```
DROP TABLE IF EXISTS wmc.Access;
```

```
DROP TABLE IF EXISTS wmc.Deck;
```

```
DROP TABLE IF EXISTS wmc.fcUser;
```

```
CREATE TABLE wmc.fcUser (  
    id SERIAL PRIMARY KEY,  
    username VARCHAR(100) UNIQUE NOT NULL,  
    registrationDate DATE NOT NULL,  
    lastLogin TIMESTAMP NOT NULL,  
    deleteTag BOOLEAN DEFAULT FALSE NOT NULL  
);
```

```
CREATE TABLE wmc.Deck (  
    id SERIAL PRIMARY KEY,  
    description VARCHAR(100) NOT NULL,  
    language VARCHAR(100) NOT NULL,  
    owner INT NOT NULL,  
    editable BOOLEAN DEFAULT TRUE NOT NULL,  
    FOREIGN KEY (owner) REFERENCES wmc.fcUser(id) ON DELETE CASCADE  
);
```

```
CREATE TABLE wmc.Access (  
    userId INT,  
    deckId INT,  
    PRIMARY KEY (userId, deckId),  
    FOREIGN KEY (userId) REFERENCES wmc.fcUser(id),  
    FOREIGN KEY (deckId) REFERENCES wmc.Deck(id) ON DELETE CASCADE  
);
```

```
CREATE TABLE wmc.Flashcard (  
    id SERIAL PRIMARY KEY,  
    front VARCHAR(100) NOT NULL,  
    back VARCHAR(100) NOT NULL,  
    deckId INT,  
    FOREIGN KEY (deckId) REFERENCES wmc.Deck(id) ON DELETE CASCADE  
);
```

```
CREATE TABLE wmc.UserFlashCardStats (  
    shown INT DEFAULT 0 NOT NULL,  
    correct INT DEFAULT 0 NOT NULL,  
    userId INT,  
    cardId INT,  
    PRIMARY KEY (userId, cardId),  
    FOREIGN KEY (userId) REFERENCES wmc.fcUser(id),  
    FOREIGN KEY (cardId) REFERENCES wmc.Flashcard(id) ON DELETE CASCADE  
);
```

6 Ausschnitte aus den Testdaten

```
INSERT INTO wmc.fcUser (username, registrationDate, lastLogin)
VALUES
  ('user1', '2024-01-01', '2024-04-28 10:00:00'),
  ('user2', '2024-01-02', '2024-04-28 11:00:00'),
  ('user3', '2024-01-03', '2024-04-28 12:00:00');
```

```
INSERT INTO wmc.Deck (description, language, owner, editable)
VALUES
  ('UNIT 1', 'English', 1, TRUE),
  ('Deck 1', 'Deutsch', 2, FALSE),
  ('UNIT 3', 'English', 3, TRUE);
```

```
INSERT INTO wmc.Access (userId, deckId)
VALUES
  (1, 1),
  (1, 2),
  (2, 2),
  (3, 3);
```

```
INSERT INTO wmc.Flashcard (front, back, deckId)
VALUES
  ('Haus', 'house', 1),
  ('Maus', 'mouse', 1),
  ('accommodation', 'Unterkunft', 2),
  ('Tisch', 'table', 3);
```

```
INSERT INTO wmc.UserFlashCardStats (shown, correct, userId, cardId)
VALUES
  (10, 8, 1, 1),
  (15, 12, 1, 2),
  (8, 6, 2, 3),
  (5, 4, 3, 4);
```