



Duolingo

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Introduction

- Duolingo was **founded in 2011** and the app was launched in 2012.
- Duolingo's mission is to “**develop the best education in the world and make it universally available.**”
 - Our aim is to expand Duolingo's **usability and profitability**
 - This presentation outlines our commitment to creating opportunities for Duolingo to grow into the market of **certified language exams** and further advertising through **product placement**.



Duolingo Press Room. (n.d.). <https://press.duolingo.com/#about>

Objectives

- Personalized education
- Make learning fun
- Universally accessible



Project scope

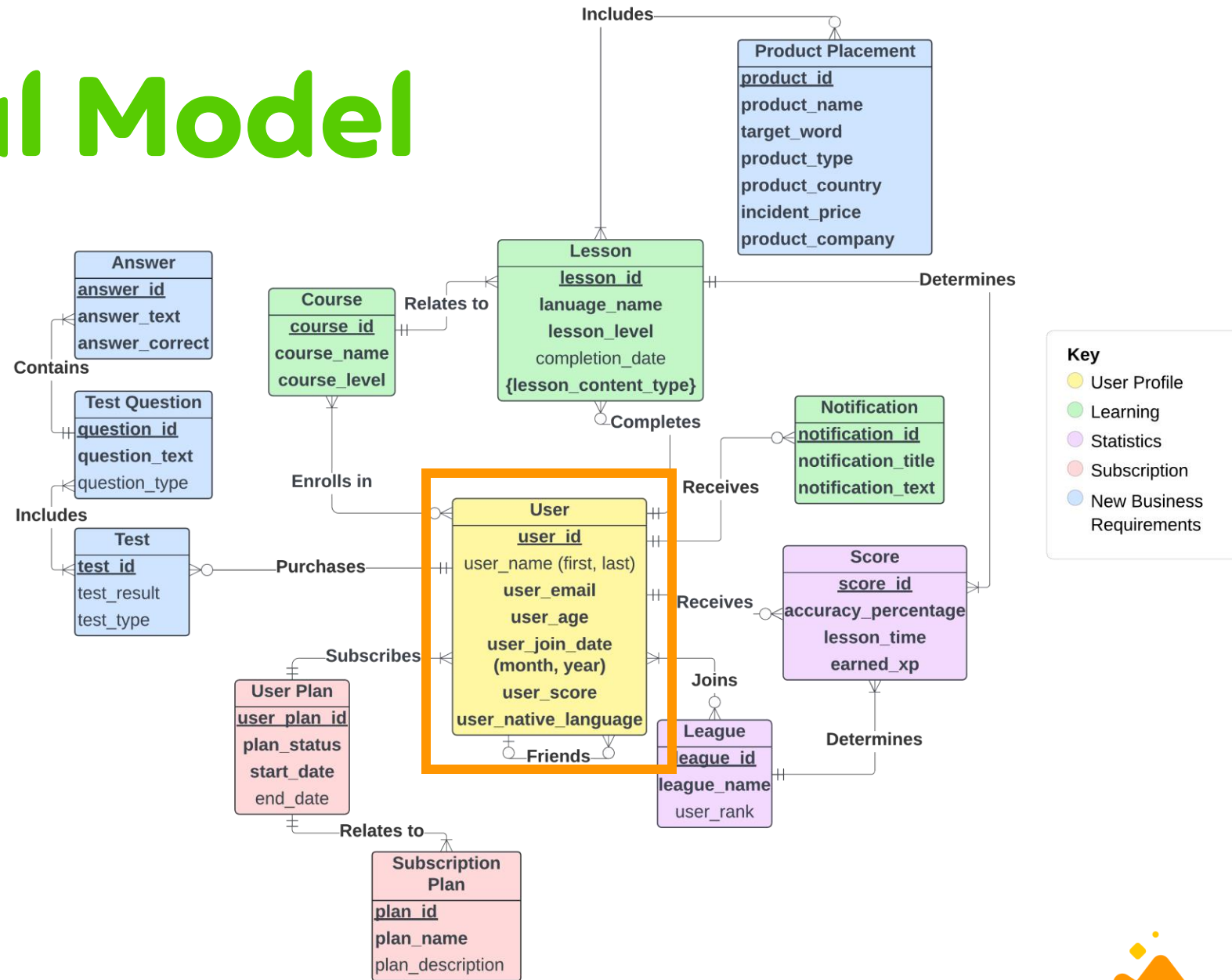
Essential functions of Duolingo app

- Enable users to register and customize their profiles
- Provide a wide range of courses
- Organize lessons into different levels
- Track progress, scores, and milestones
- Connect with friends and compete in leagues
- Offer subscription plans



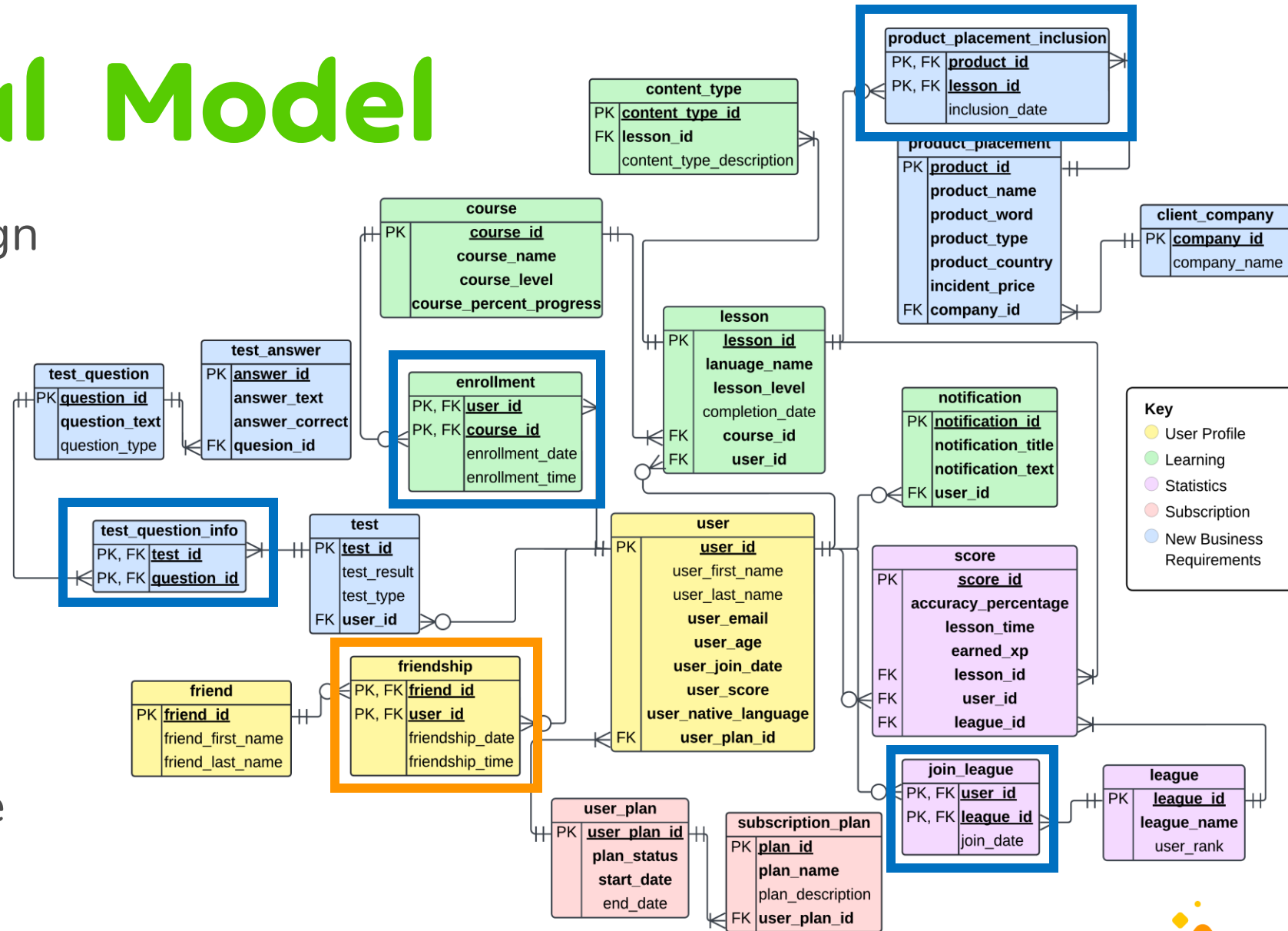
Conceptual Model

- The 'User' entity is the center of the model
- Focused on users, learning, statistics, subscriptions, and 2 new business requirements
- Product placement in the conceptual model
- Tests in the conceptual model



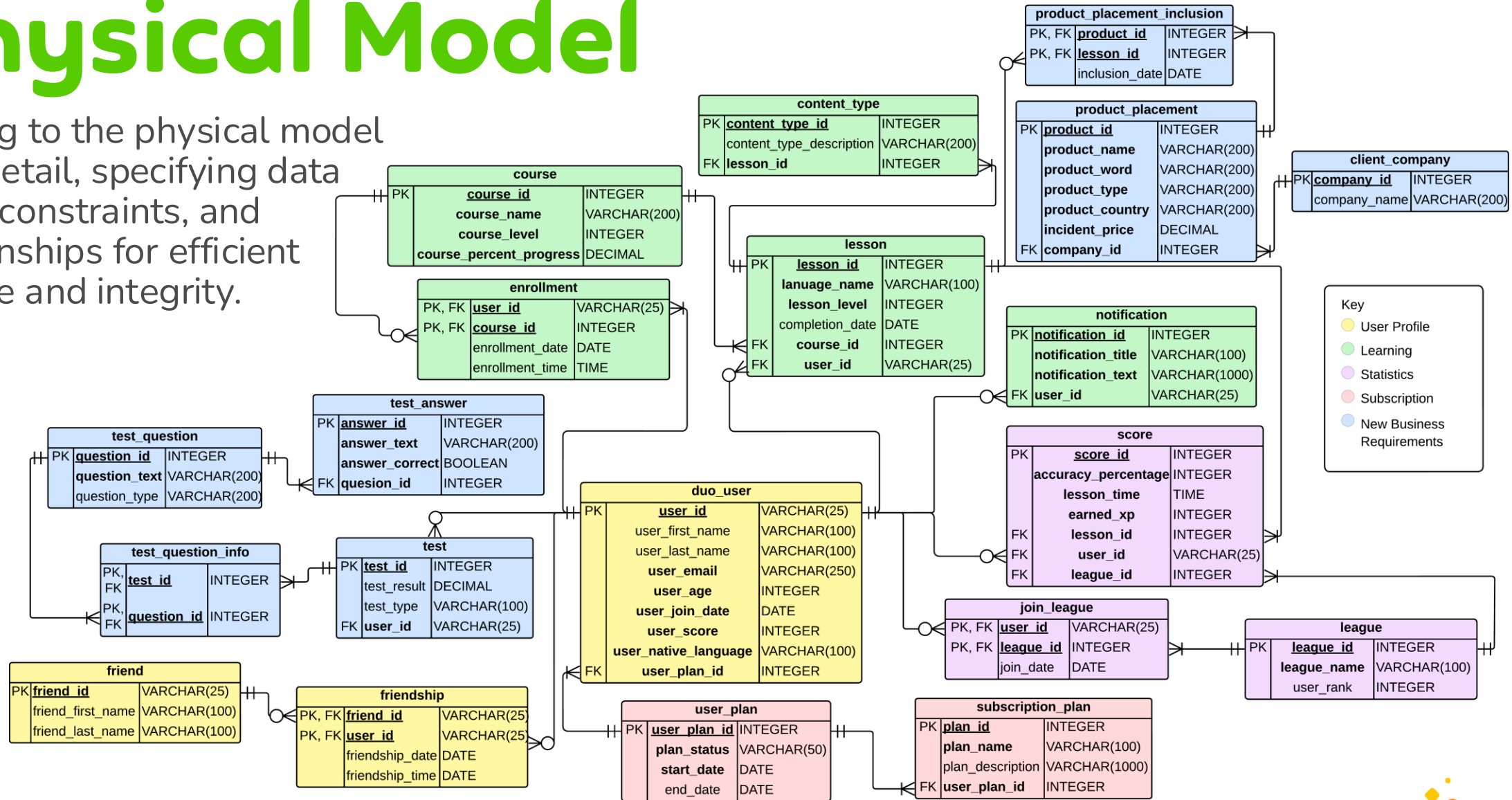
Relational Model

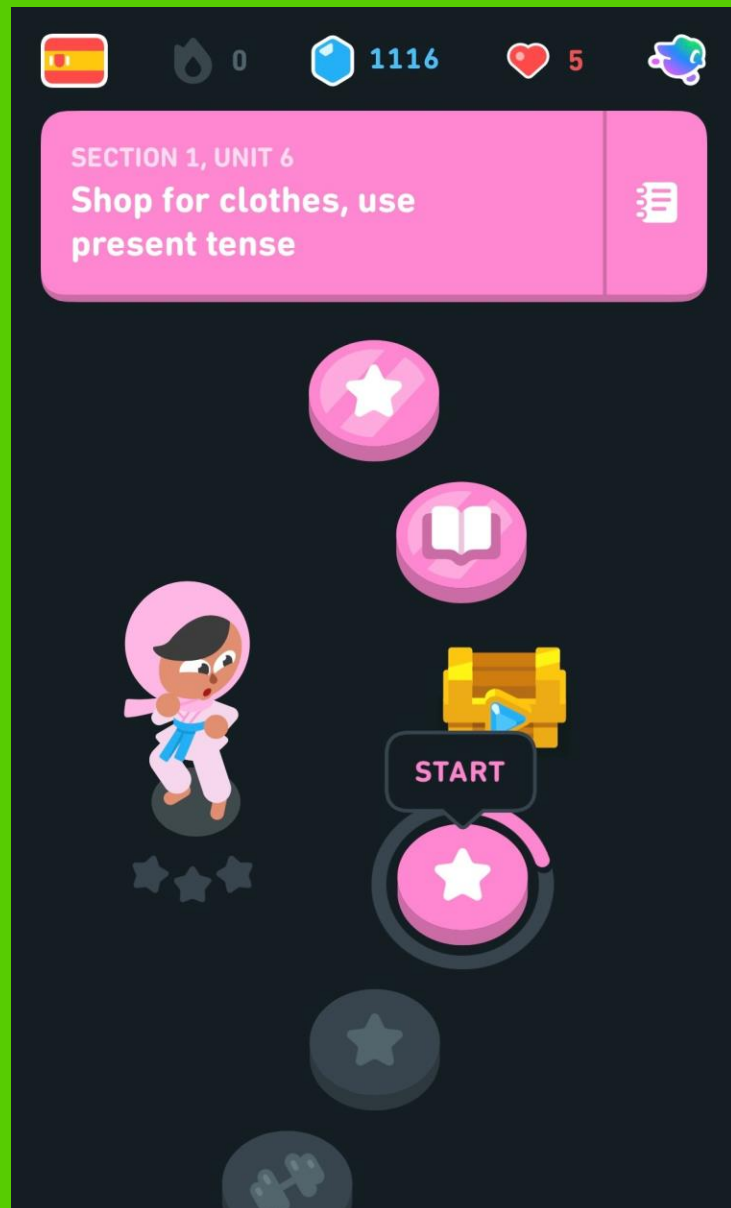
- Primary keys and foreign keys are defined for each entity to ensure data consistency.
- For each binary many-to-many relationship type, we split it into a new table.
- For unary relationship type, we handle user friendships through the friendship table.



Physical Model

- Shifting to the physical model adds detail, specifying data types, constraints, and relationships for efficient storage and integrity.





Ruby League
Top 10 advance to the next league
3d 9h 14m

1		Luis	445 XP
2		Severin	315 XP
3		Natalie	285 XP
4		Myra	280 XP
5		Jack	260 XP

8 1 1166 4

Spanish **German** **Course**

8 9
Your Spanish Score is 8
[MORE ABOUT SCORE](#)

New Courses

Music **Math**

lesson *Enter a SQL expression to filter results (use Ctrl+Space)*

	123 lesson_id	A-Z language_name	123 lesson_level	🕒 completion_date	123 course_id	A-Z user_id
1	1	Spanish	1	2023-03-15	1	user001
2	2	French	2	2023-04-20	2	user002
3	3	German	3	2023-06-25	3	user004
4	4	Spanish	1	2023-07-15	1	user005
5	5	French	2	2023-08-10	2	user006
6	6	Italian	1	2023-09-15	4	user005
7	7	Portuguese	2	2023-10-10	5	user006
8	8	Japanese	3	2023-11-20	6	user007
9	9	Korean	1	2023-12-05	7	user008
10	10	Chinese	2	2023-12-15	8	user009



league *Enter a SQL expression to filter results (use Ctrl+Space)*

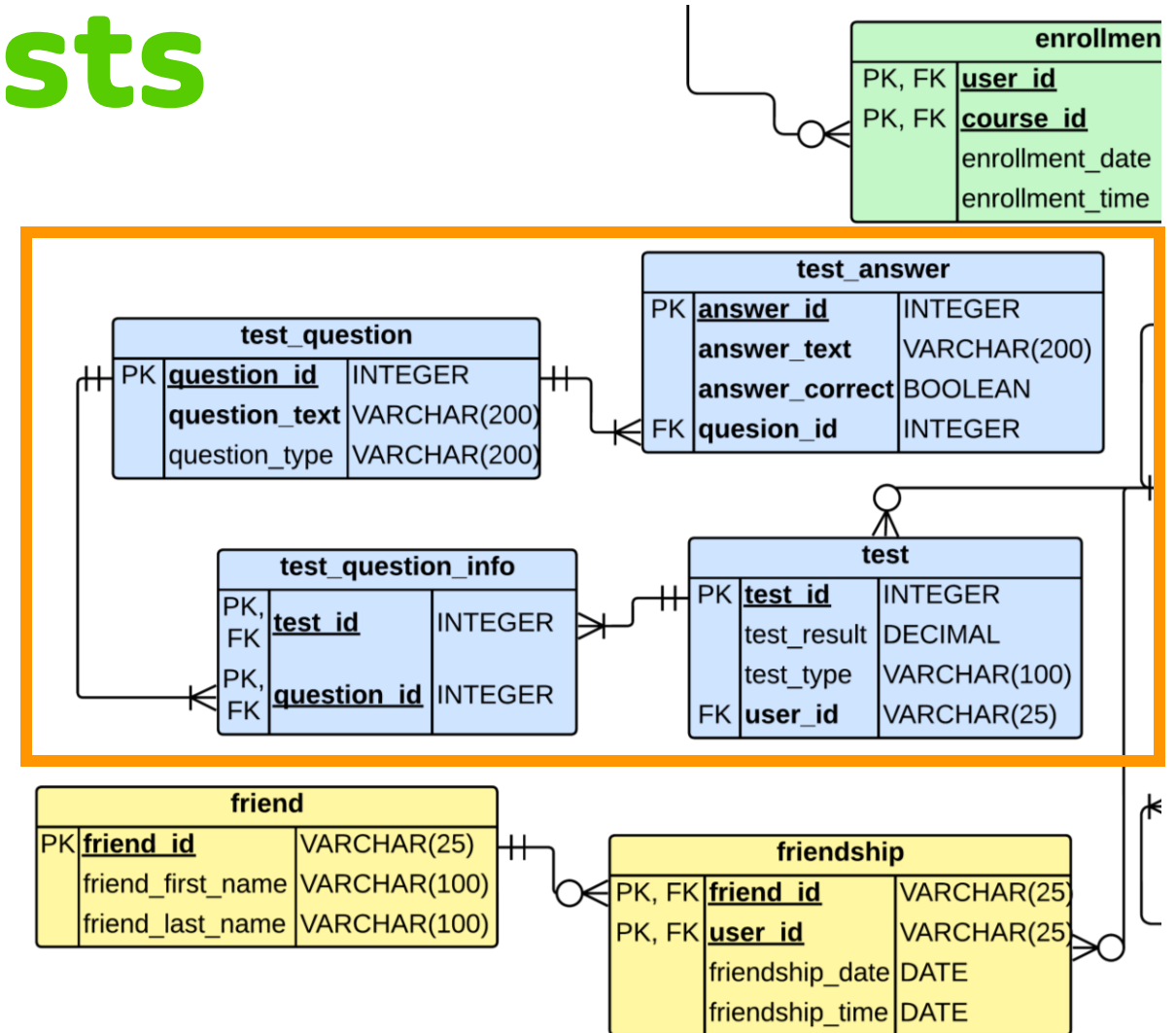
	123 league_id	A-Z league_name	123 user_rank
1	1	Bronze League	1
2	2	Silver League	2
3	3	Gold League	3
4	4	Platinum League	4
5	5	Diamond League	5
6	6	Emerald League	6
7	7	Ruby League	7
8	8	Sapphire League	8
9	9	Amethyst League	9
10	10	Obsidian League	10

course *Enter a SQL expression to filter results (use Ctrl+Space)*

	123 course_id	A-Z course_name	123 course_level	123 course_percent_progress
1	1	Spanish for Beginners	1	20.5
2	2	French Intermediate	2	45
3	3	German Advanced	3	70
4	4	Italian for Beginners	1	15
5	5	Portuguese Intermediate	2	50
6	6	Japanese Advanced	3	80
7	7	Korean for Beginners	1	25
8	8	Chinese Intermediate	2	60
9	9	Russian Advanced	3	75
10	10	English for Spanish Speakers	1	30

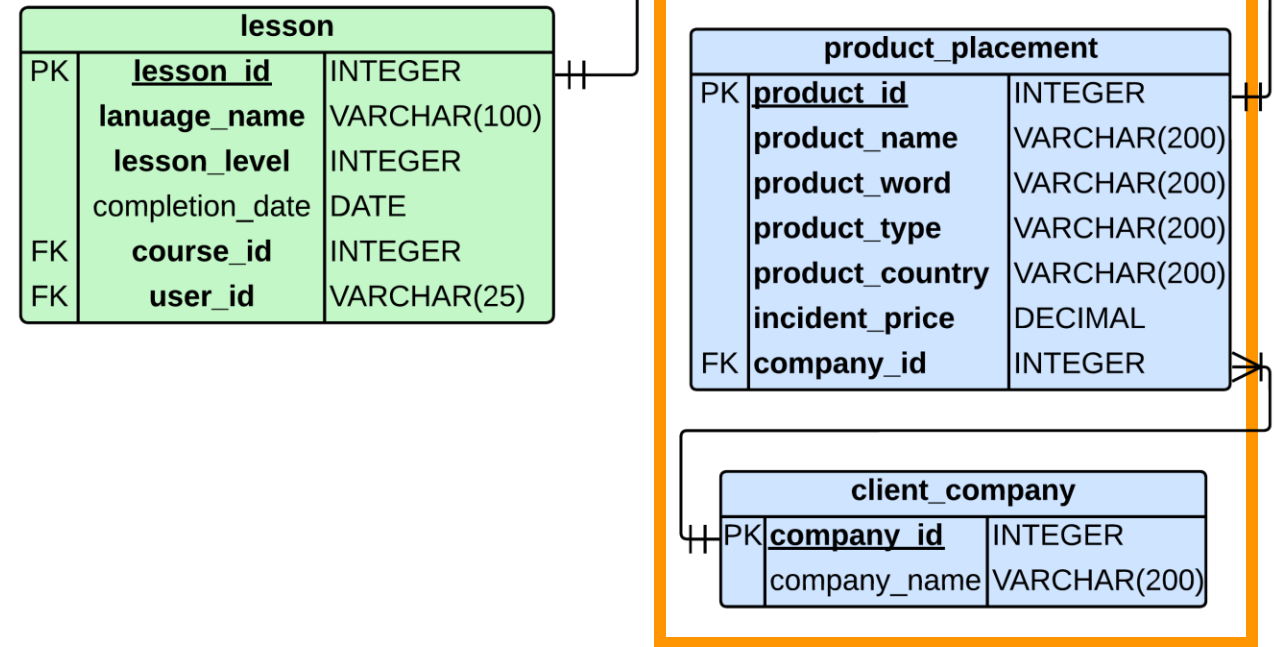
Certification Tests

- The Duolingo English Test (DET) is an **affordable** and **convenient** alternative to traditional exams like IELTS and TOEFL, available entirely online.
- Bring DET test to **mobile devices**, allowing users to prepare **anytime, anywhere**.
- Expand to offer language certification tests for **other languages** like TOPIK or JLPT, creating a comprehensive **exam preparation platform**.



Product Placement

- Product placement offers businesses to **integrate branded words** into lessons, enhancing user familiarity and brand recognition.
- Brands engage learners directly, boosting recall in educational and **life settings**.
- Creates a new **revenue** stream and **empowers** user's functional vocabulary.



Database Queries



```
--Query to Get the Top-Performing Users Based on XP Earneds
SELECT u.user_first_name, u.user_last_name, SUM(s.earned_xp) AS total_xp
FROM duo_user u
JOIN score s ON u.user_id = s.user_id
GROUP BY u.user_first_name, u.user_last_name
ORDER BY total_xp DESC
```

	A-Z user_first_name	A-Z user_last_name	123 total_xp
1	Diana	Miller	430
2	Charlie	Davis	370
3	Bob	Brown	250
4	Grace	Lee	240
5	Eve	Wilson	230
6	Jane	Smith	200
7	Frank	Clark	170
8	John	Doe	150

```
--Query to Find top Revenue by Company
SELECT c.company_name, SUM(p.incident_price) AS total_revenue
FROM product_placement p
JOIN client_company c ON p.company_id = c.company_id
GROUP BY c.company_name
ORDER BY total_revenue DESC
```

	A-Z company_name	123 total_revenue
1	Learnify	1,184.7
2	EduWorld	909.15
3	LanguageCorp	730.23

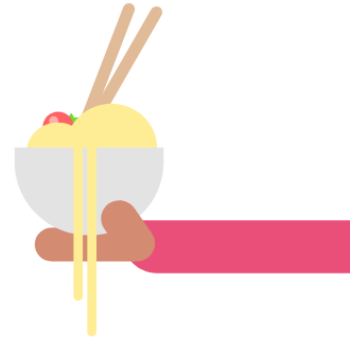
Summary



User Learning



User
Connection



Product
Placement



Certification
Tests



Questions?