duolingo

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Project 1: Mobile App Research

GRDS 387

Professor Quarzo

Duolingo is best known for its free, award-winning, science-based language education platform. With over 120 million users across iOS, Android, Web and Windows Phone, Duolingo is the world's most popular way to learn a language online.

Languages: English, Arabic, Czech, Dutch, French, German, Greek, Hindi, Hungarian, Indonesian, Italian, Japanese, Korean, Polish, Portuguese, Romanian, Russian, Simplified Chinese, Spanish, Traditional Chinese, Turkish, Ukrainian, Vietnamese

- Category - Education
- Apple's iPhone App of the year 2013
- Best Education Startup at the 2014 Crunchies
- Most downloaded app in the Education category in Google Play 2013 and 2014.
- 2015 award winner in Play & Learning category by Design to Improve Life.

★★★★★

145940 Ratings
on App Store

OVERVIEW

Reviews

★★★★★ "Best app I've ever downloaded "

"It's simple and easy, you won't learn a language just using this app but it's an awesome companion and study tool. I take French courses at college and this helped me score much higher on my exams. Definitely recommended."

- Rob45311

★★★★★ "Amazing!"

"this app teaches me more than my French class in school"

- Elleeee789946271

★★★★ "Great app "

"I love the app, but i wish it would do a better job explaining the grammar rules and verb conjugation rules."

- Pissed_off_user999999

How is Duolingo free?

The creator of Duolingo, Luis von Ahn is also the creator of CAPTCHA and reCAPTCHA. Duolingo (like reCAPTCHA) is financed using crowdsourcing. Through mass-collaboration, reCAPTCHA is helping to digitize books that are too illegible to be scanned by computers, as well as translate books to different languages. According to the Ted Talk by Luis Von Ahn linked below, more than 750 million people have helped digitize books through this method.

To earn money, Duolingo employed a similar crowdsourced business model, where people are invited to translate together in the "immersion" section of the website (not the apps) to learn and improve their skills, and also vote on translations. The content came from organizations that pay Duolingo to translate it. Duolingo uses an algorithm to find out when a translation is complete and then send the translation to their clients which includes Wikipedia, Buzzfeed, CNN, and more.

https://www.ted.com/talks/luis_von_ahn_massive_scale_online_collaboration?language=en

BUSINESS MODEL

What is Immersion?

Participating in Immersion is what keeps Duolingo free, however, it's completely optional. Duolingo Immersion offers learners a chance to practice their language skills with real world content like Wikipedia and news articles. People earn XPs for translating sentences, advance to the next translator tier, and vote on others' translations to help improve the document's crowd-sourced translation. The Immersion section is currently only available for some courses on Duolingo's website.

There is an Immersion guidelines, rules, and conducts to follow for people who want to join the community. A course contributor is a bilingual volunteer who helps create a Duolingo language course. The basic requirement for contributing to a language course is fluency in both the language being taught and the language being taught from.

A course moderator is a course contributor who is given additional duties, such as managing the activities of the other contributors and creating translation guidelines.

BUSINESS MODEL

Why offer for free?

"It turns out there are over 1.2 billion people learning a new language around the world. Now, the majority of these people, like 800 million of them, are learning English, and don't have very much money. In fact, the reason they are learning a language is to be able to get a better job, or a job at all. The majority is not learning French because they want to get ready for a trip to Paris over the summer. They're learning a language to get a job at a call center."

Luis Von Ahn calls his business model the "Fair Business Model". Instead of paying tuition or a subscription fee, students actively translate a range of documents for organizations as they practice what they have learned. They hone their language skills with real world applications, which gives their effort a purpose and offers an opportunity they previously couldn't afford.

BUSINESS MODEL

How does Duolingo introduce new languages?

Duolingo established the Language Incubator to help build new languages by encouraging fluent speakers to apply as a volunteer contributor to a specific language. The Duolingo Incubator also aims to help preserve some of the less popular languages such as Latin, Mayan and Basque. The Incubator has 3 phases:
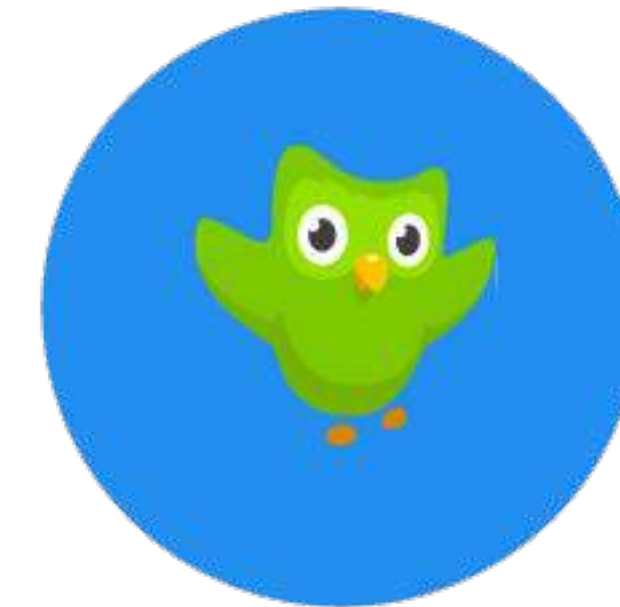
Phase 1: Not Yet Released

"Course begins after sufficient interest is contributed"
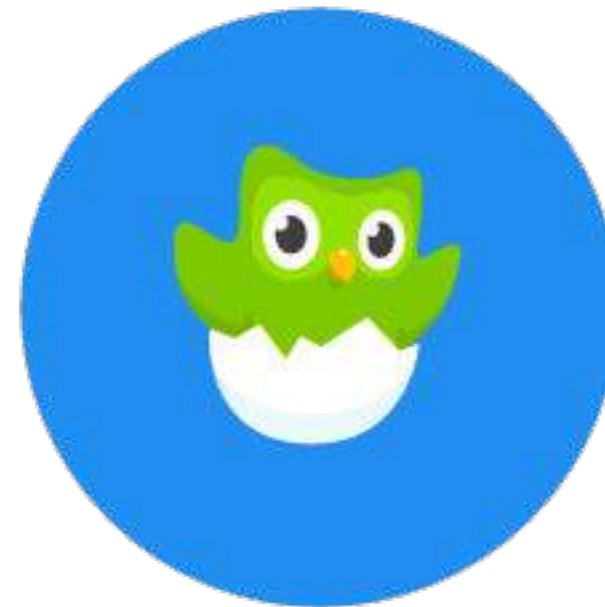
Phase 2: Released in Beta

"Course is fully prepared and ready for beta testing"

Phase 3: Graduated from Beta

"Courses are relatively stable"

STATISTICS

In an independent study, professors from the City University of New York (CUNY) and the University of South Carolina found that on average, it takes 34 hours of Duolingo to learn the equivalent of one semester of college of language instruction. The research did not measure speaking ability. It found that a majority of students dropped out after less than 2 hours of study. The study was done by an external research team that previously evaluated the effectiveness of other methods such as Rosetta Stone. The same study found that Rosetta Stone users took between 55 and 60 hours to learn a similar amount.

So not only is Duolingo free, but the study suggests it's also better than Rosetta Stone and more effective than a college course.

http://static.duolingo.com/s3/DuolingoReport_Final.pdf

**duolingo
test center**

Affordable and convenient language certification from Duolingo.

Duolingo Test Center is an online language certification platform that can be taken on the Web, iOS or Android. Tests are proctored through microphone and camera. There are two types of tests: Quick Test and Duolingo Certificate. Quick Test lets you try practice questions from the Duolingo Certificate. The Duolingo Certificate costs $49 to take and takes 20 minutes to finish. It's graded within 48 hours on a scale between 0 and 10.

Upwork has adapted the Test Center score as one of their official qualifications with which freelance workers can prove their English fluency. Duolingo is also collaborating with LinkedIn to allow the score to be easily incorporated into a user's résumé page. Duolingo is working with twelve US universities, including Carnegie Mellon University, to study if the score can be reliably used as one of their admission qualifications.
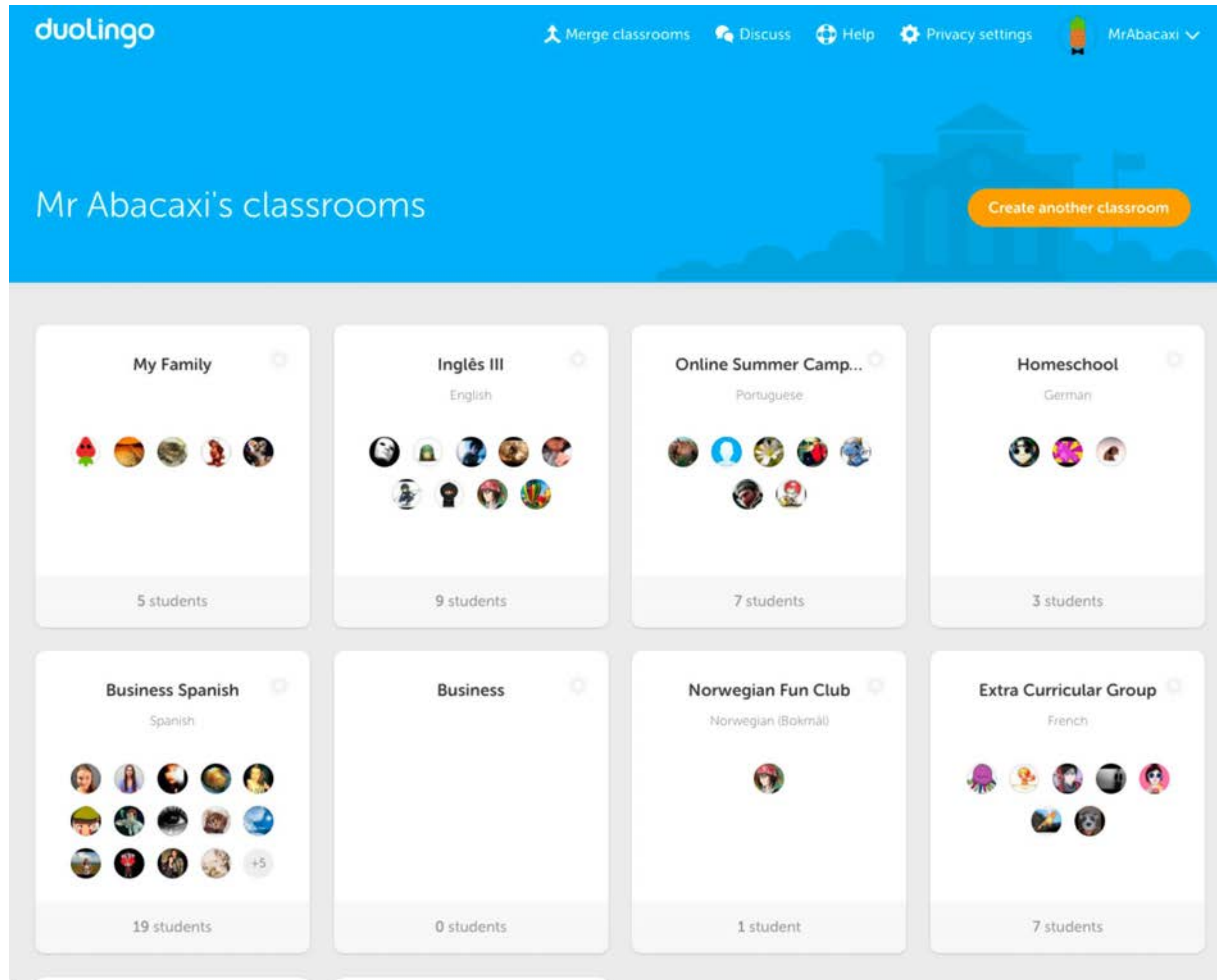
duolingo | for schools

Bring the world's most popular language-learning platform to your classroom. No ads, 100% free.

PRODUCTS

Duolingo for Schools

Duolingo for Schools provides teachers with a centralized dashboard that can display their students' progress. The dashboard helps teachers understand each individual student's weaknesses and strengths at each skill, and helps them optimize their language-teaching methods. Duolingo turns language learning into a game to make it more fun and effective. Students can learn languages for free while earning points for correct answers and leveling up.

PRODUCTS

Tinycards by Duolingo is a fun flashcard app that helps you memorize anything for free, forever. Bite-sized lessons are the best way to master anything from the Spanish language to the Periodic Table. Tinycards understands how you learn and reminds you when your memory is about to fade, so you'll never forget a thing.

INFRASTRUCTURE

Duolingo uses many services in the Amazon Web Services suite of products, including Amazon DynamoDB, Amazon Virtual Private Cloud, Amazon Elastic Computer Cloud (EC2), Amazon Simple Storage Service (S3), and Amazon Relational Database Service (RDS).

The server backend is mainly written in Python, while the frontend is in Backbone.js and Mustache. Duolingo provides a single page web application for desktop computer users and also smart phone and tablet applications on Android (both Google Play Store and Amazon Appstore), iOS (App Store) and Windows Phone platforms.

iOS   Android   Windows

DESIGN | Guidelines

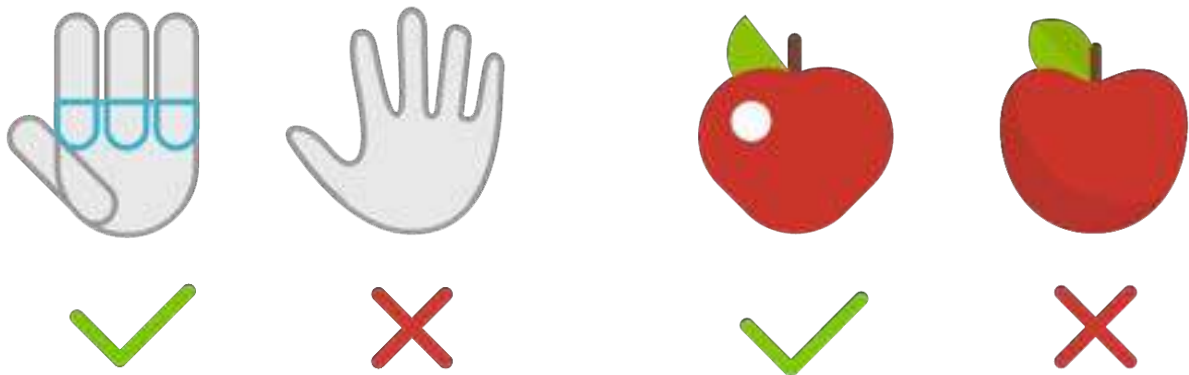## Color Palette

Primary

skills, buttons, and text
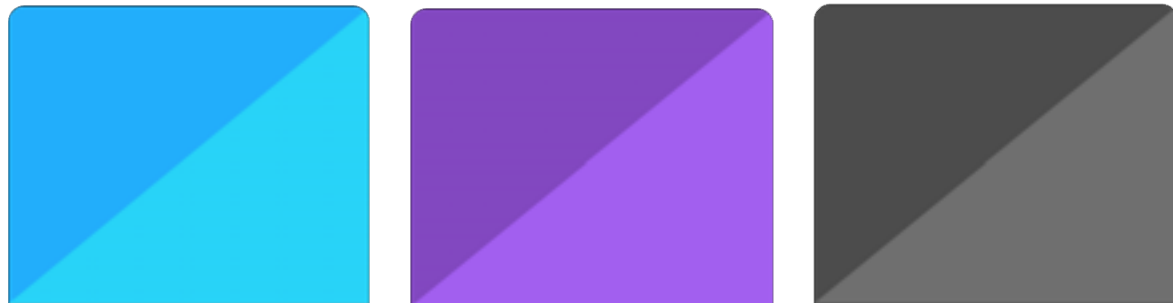
Secondary

backgrounds and grading ribbons

Illustrations

All illustrations are geometric. They are made with wholes, halves and quarters of four basic shapes: circle, square, rounded rectangle and triangle. Objects are created in the simplest way with the fewest shapes possible.

Characters   Monuments   Languages   Skills   Interface

Mascot and Icon

Details

Duo

Buttons

BUTTON 1   BUTTON 1 DISABLED

BUTTON 2   BUTTON 2 DISABLED

f FACEBOOK   g+ GOOGLE

Input

Type something here...

Logo and Typeface

The logo and secondary logos always appear in lowercase

duolingo | for schools

MUSEO SANS ROUNDED to give a fun and simple feel to match the illustrations.
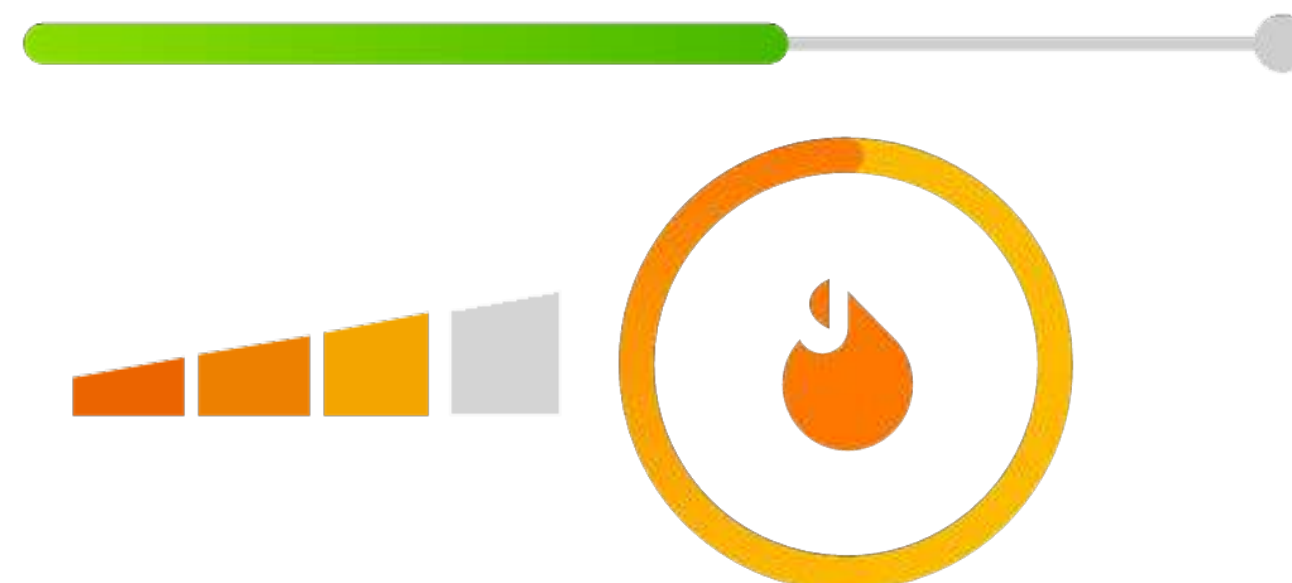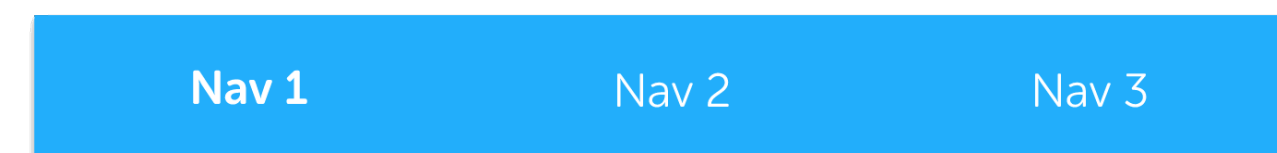
Learn a language for free.
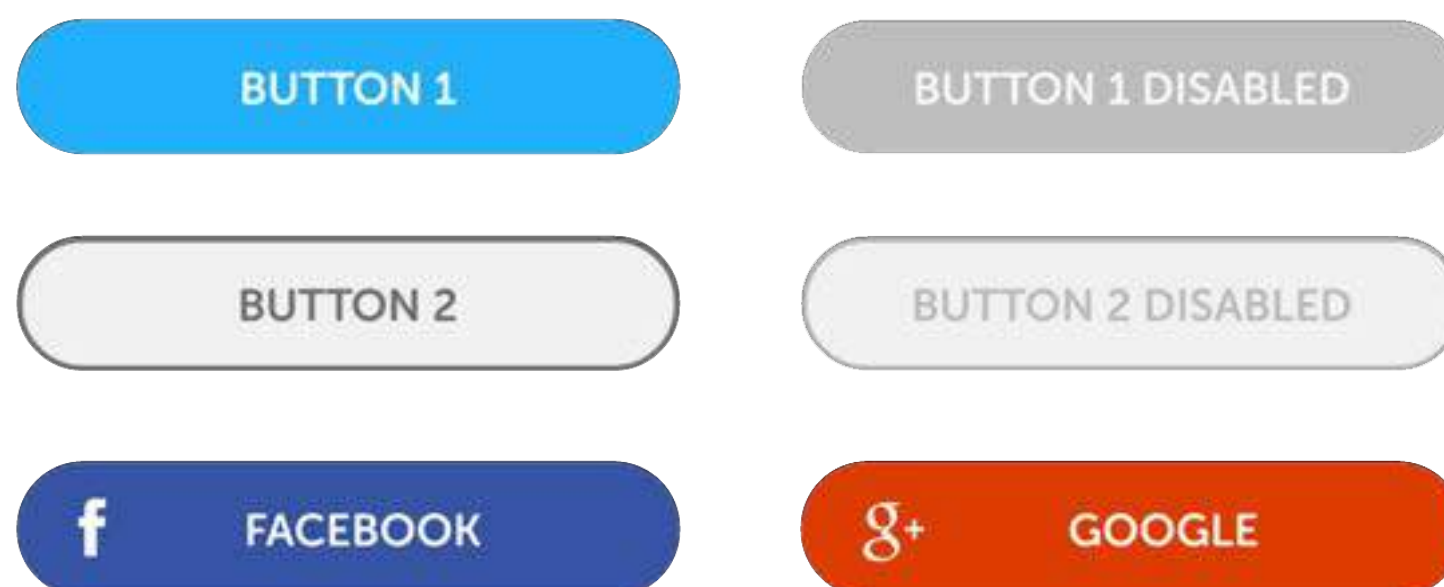
Data Visualization

Help people stay on track and quantify how much they have learned.

Navigation and Alerts

Correct solution
Por favor, levanten las manos.

That's almost correct
Por favor, levanten las manos.

| **Nav 1** | Nav 2 | Nav 3 |

How does the App Work?

After you choose the language you wish to learn, you have the option of either starting right from the beginning (Basics 1), which presumes you have no prior background in the language or the option of passing a short "placement test", to see what level you might best fit in.

Each lesson is composed of 4 types of exercises:

1. a translation exercise where you are required to translate from your native language to your target language or vice-versa

2. a listening exercise where you listen to a short phrase being spoken and you write what you hear

3. a matching exercise where you are introduced to new vocabulary and need to match it with the right photo or vice-versa

4. and a speaking exercise where you have to read out loud a sentence in the target language.

Duolingo uses GAMIFICATION to encourage users to stay interested. You get XP for lessons and practice sessions, and you level up as you gain XP in a language you are working on. Whenever you level up or complete a skill you earn "lingots", Duolingo's currency, which you can spend on power-ups, practice and bonus skills. Users of the mobile apps can also customize the appearance of the Duolingo mascot, Duo. Other Bonus Skills include "Flirting" and "Idioms and Proverbs".

APP CONTENT

A. Existing User

B. New User

● Explanation

● Analysis

Onboarding Screen

Users have two directions to take:

A. If a user has an existing account, they'll tap on the button "I Already Have an Account". The log in menu will slide in where they can sign in with email or with Facebook/Google. The buttons for social network are low on the screen so it'll be easier for the thumb to reach since they one require one tap. The buttons are kept the FB and Google colors to stand out from the blue background which makes it stand out from the "sign in" button so users will be more drawn.

B. New users would tap on "Getting Started" and it will bring them to a list of languages to choose from. It doesn't ask right away to create an account so users can test out the app first and see if they like it before committing.

The log in screen is overall very clean and simple. The sky blue in conjunction with the moving cartoon clouds sets a tone for something carefree and fun! This app uses gamification so it makes sense to embrace this style. The "Get Started" button is emphasized with a white background to draw new users to it compared to the outlined button for a user who's already used the app and has an account.

# APP CONTENT

● Explanation

● Analysis
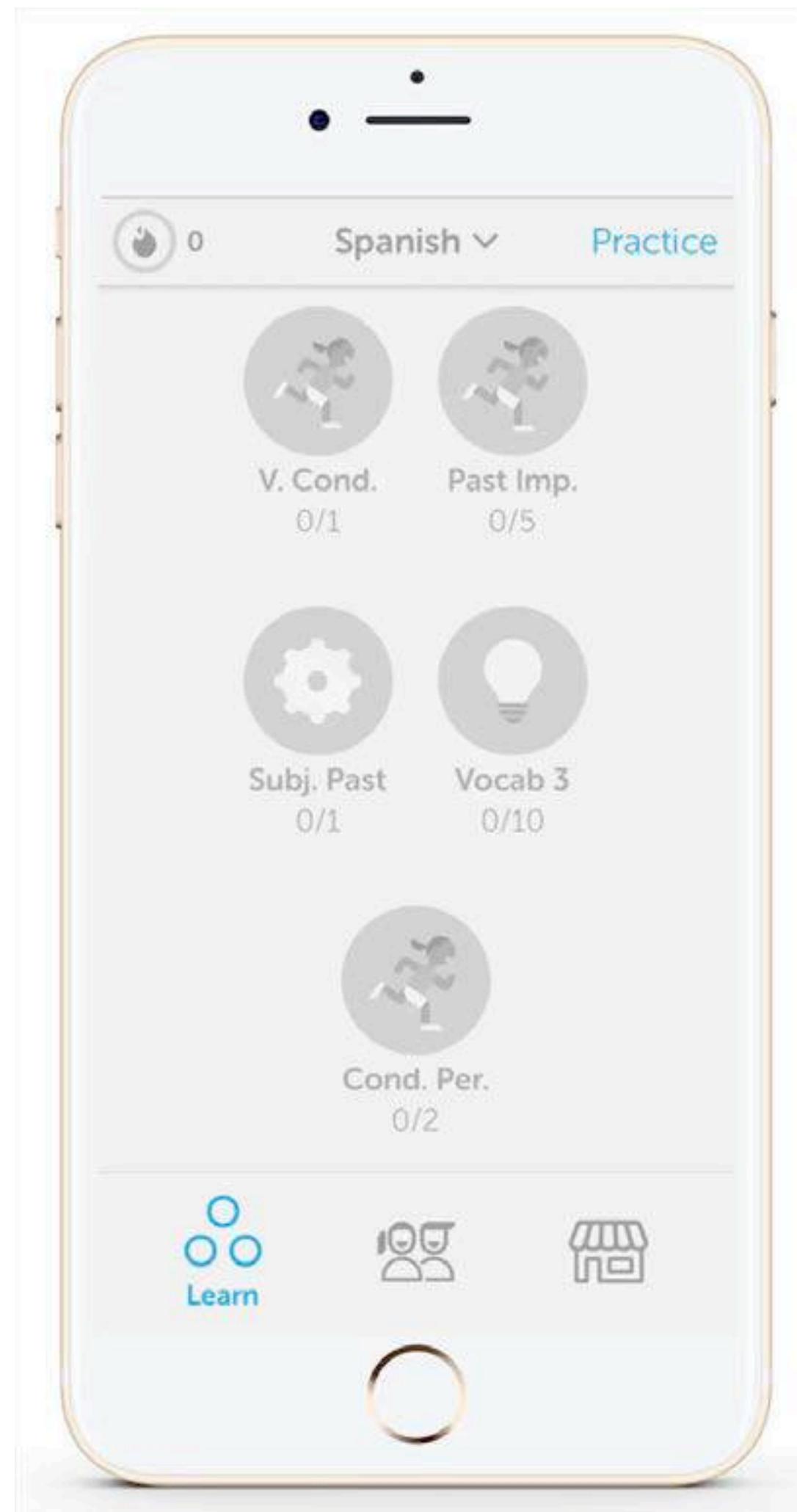
Course Navigation

To manage your courses or pick a new language, you'll click on the current language you're on in the "Learn" tab. The "v" arrow next to Spanish means there's a drop down menu. Once it's clicked, the menu for all your courses drops down and lets you choose course or add new one with the + icon. The "v" becomes a "ʌ" to put the menu back up when it's toggled. Adding a course slides up a scrolling page of language options.

Each course is accompanied by an illustration of a monument native to the country. The illustrations capture the fun and bright colors and design style of the rest of the app. There is also great use of icons such as the drop down "v" and "+" to add a new course.

● Explanation
● Analysis
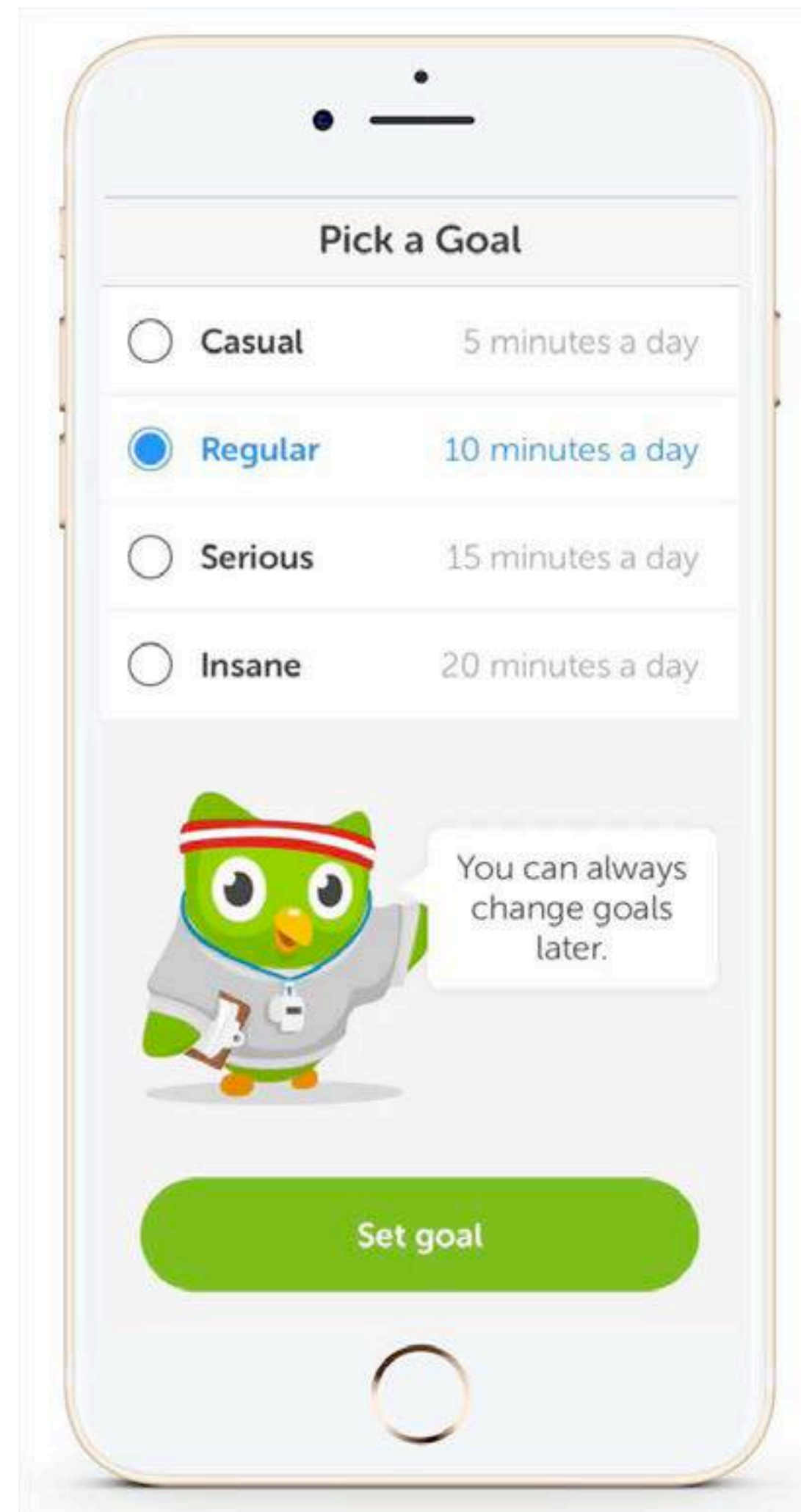
Customizing Lessons

After picking a language, users go through a process to pick what kinds of lessons are right for them. They pick a daily goal by tapping on a level of toughness they want. There are two options: beginner and not a beginner. Duo helps the user through the whole process with questions and different choices.
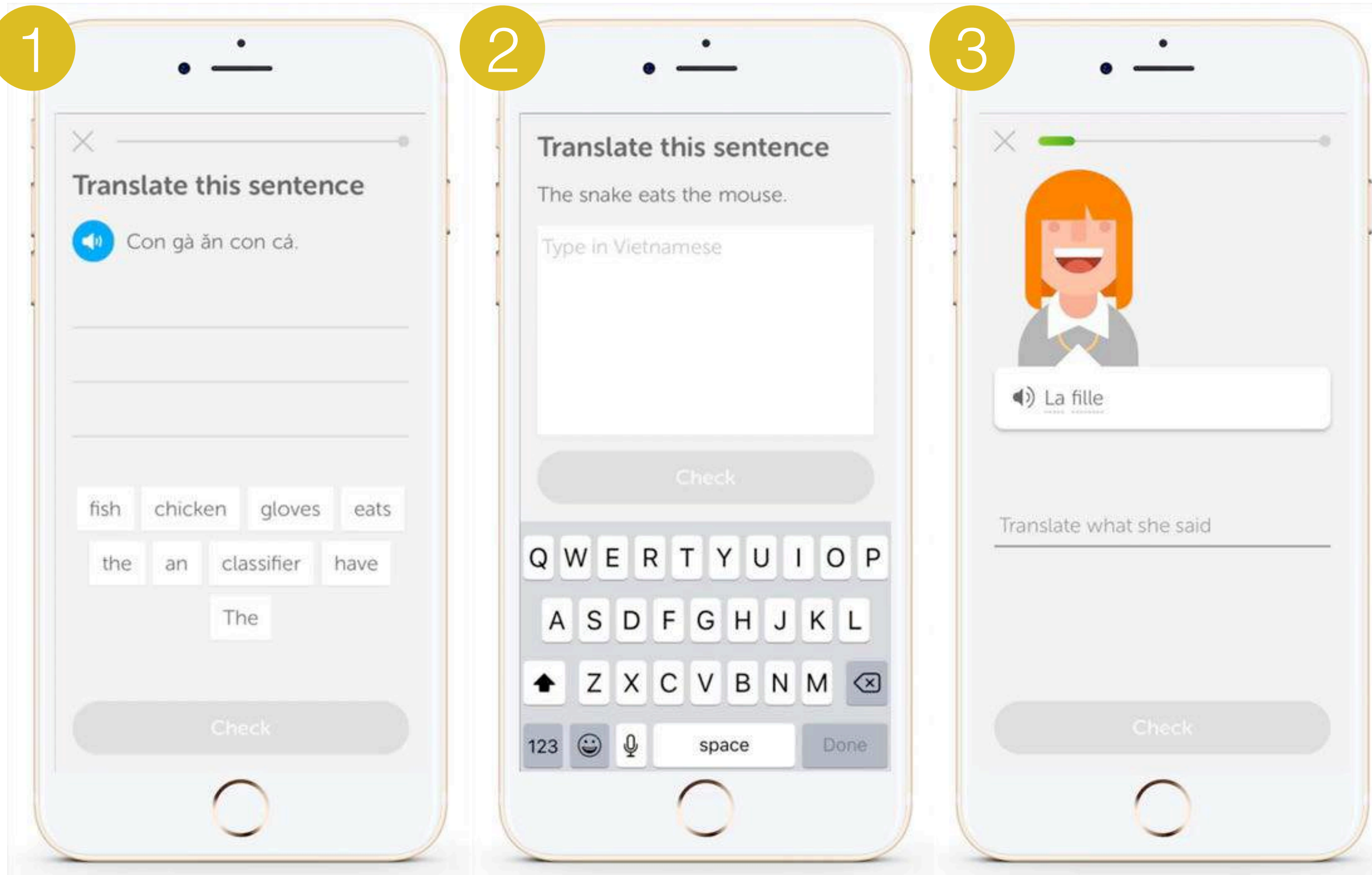
Having Duo to help guide eases the seriousness of the app. His cute flat design and bright coloring keeps things fun and interactive. The buttons that are emphasized to be pressed on are green and vibrant while the less implied like the "cancel" button is outlined. The input options changes colors once they're clicked on to show the user what they've chosen.

Lesson Exercises

Types of Exercises

1. Users are asked to "translate the sentence" with the given words. To choose a word, users simply have to tap on the word. They can also drag the words around or back to it's place if they made a mistake. The "check" button is greyed out and unclickable until the sentence has been entered.

2. Users are asked again to "translate the sentence", but this time the keyboard pops up and they have to type in the sentence with no audio or given words to help. Good for making the learner produce language from memory.

3. This also asks to translate, but it also includes a pop up for tips and explanation. A user will click on the line where it asks to translate to bring up the keyboard to type the answer.

The UI of the third exercise is a lot more polished with the fun, bright illustration than the first two because French is a fully finished course in the Incubation process. The first two are rather boring looking because they're still in phase 2 or "beta". The difference between the directions to translate is seen with the third one greyed out in the input form to give the page a clean feel.

Lesson Exercises

● Explanation
● Analysis

Spanish

Vietnamese

Comparison - Spanish Vs. Vietnamese

Vietnamese is only in phase two of the Incubation stage, the beta version. Beta may contain mistakes so users are encouraged to report any errors using the in-lesson report button. Spanish, however, has graduated from Beta to Phase 3.

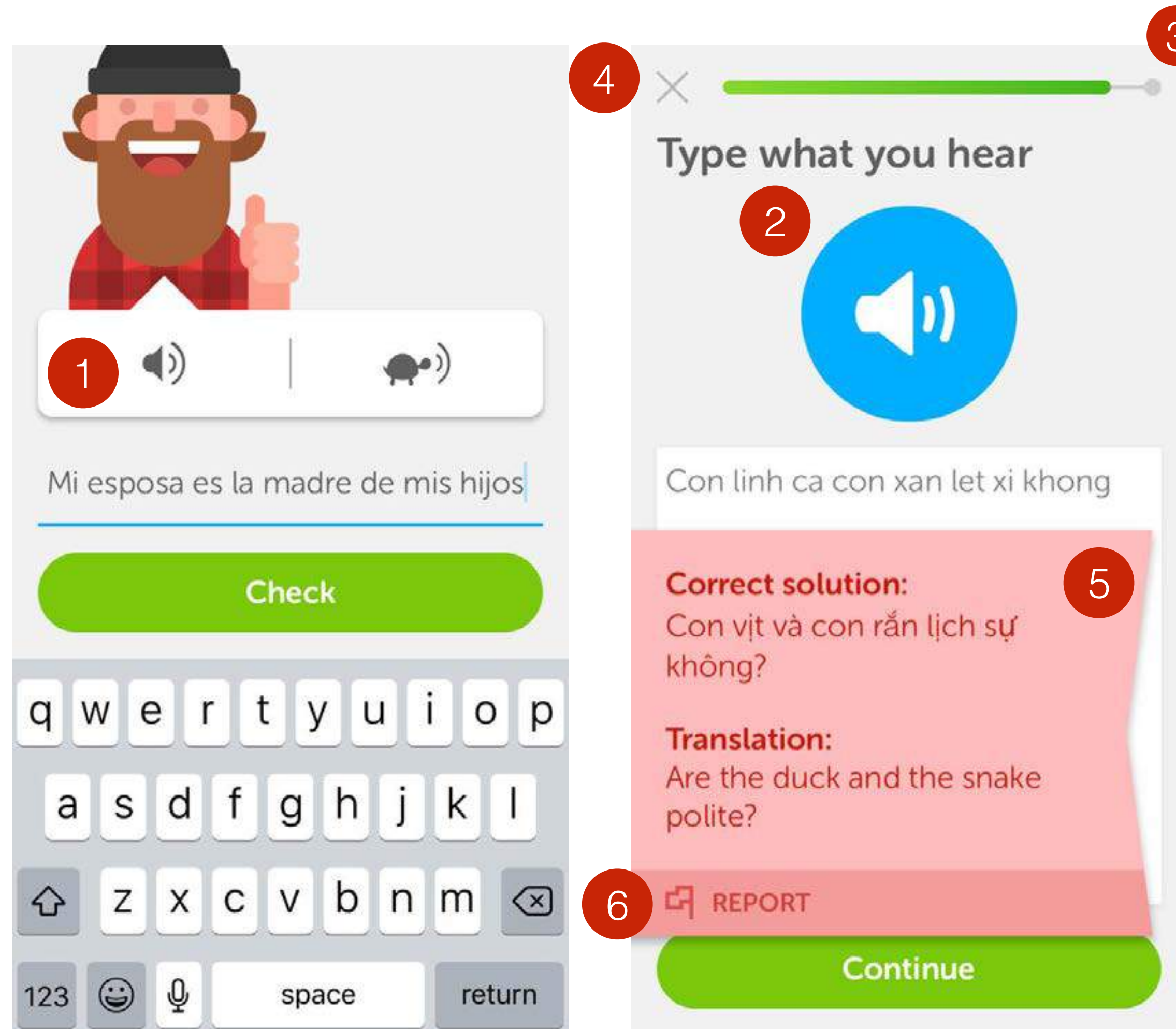There is definitely a difference between phase 2 and 3.
1. Spanish version looks more aesthetically pleasing especially with the illustration with text box which makes it more fun and engaging.
2. The input section on both requires you to tap with your finger to select the correct words given to translate the phrase on top.
3. The beta version has a large, bold "Translate this sentence" to tell the user what to do whereas it's not there in the Spanish version.
4. Both versions have large green button that nearly fills the width of the screen on the very bottom. The color and size draws the users eyes in and makes it easier to click when they're finished translating.
5. The placement of the exercise to translate is lower in the Spanish version and I find having it lower is a lot easier for my thumb to tap the correct words.

Lesson Exercises

Spanish

Vietnamese

Comparison - Spanish Vs. Vietnamese

These images are both listening exercises:

1. The Spanish version has two types of audio option. Users can easily infer what the icon to listen to audio is and also equating the turtle with the audio "sound curves" for a slower option if you're having problems hearing.
2. The Viet Beta version has the directions given while the Spanish doesn't. Again, most users can infer based on audio icon alone what the exercise would be, but it's not wise to assume that for all users.
3. Both beta and final versions have a progress bar on top as a form of data visualization. The bar is grey and as the exercises progress, it becomes green to show how much is left.
4. There is also a greyed out x on the top for users to quit the lesson. It's greyed out so it won't stand out and users will practice instead of leave.
5. The ribbon appears after you submit your answer. The ribbon's color reflects the correctness of the answer, and the information in the ribbon should give the learner as much insight into their answer as possible.
6. An icon of a flag aids with the all cap "REPORT" word to let users know that this is where you click to report an error.

APP CONTENT
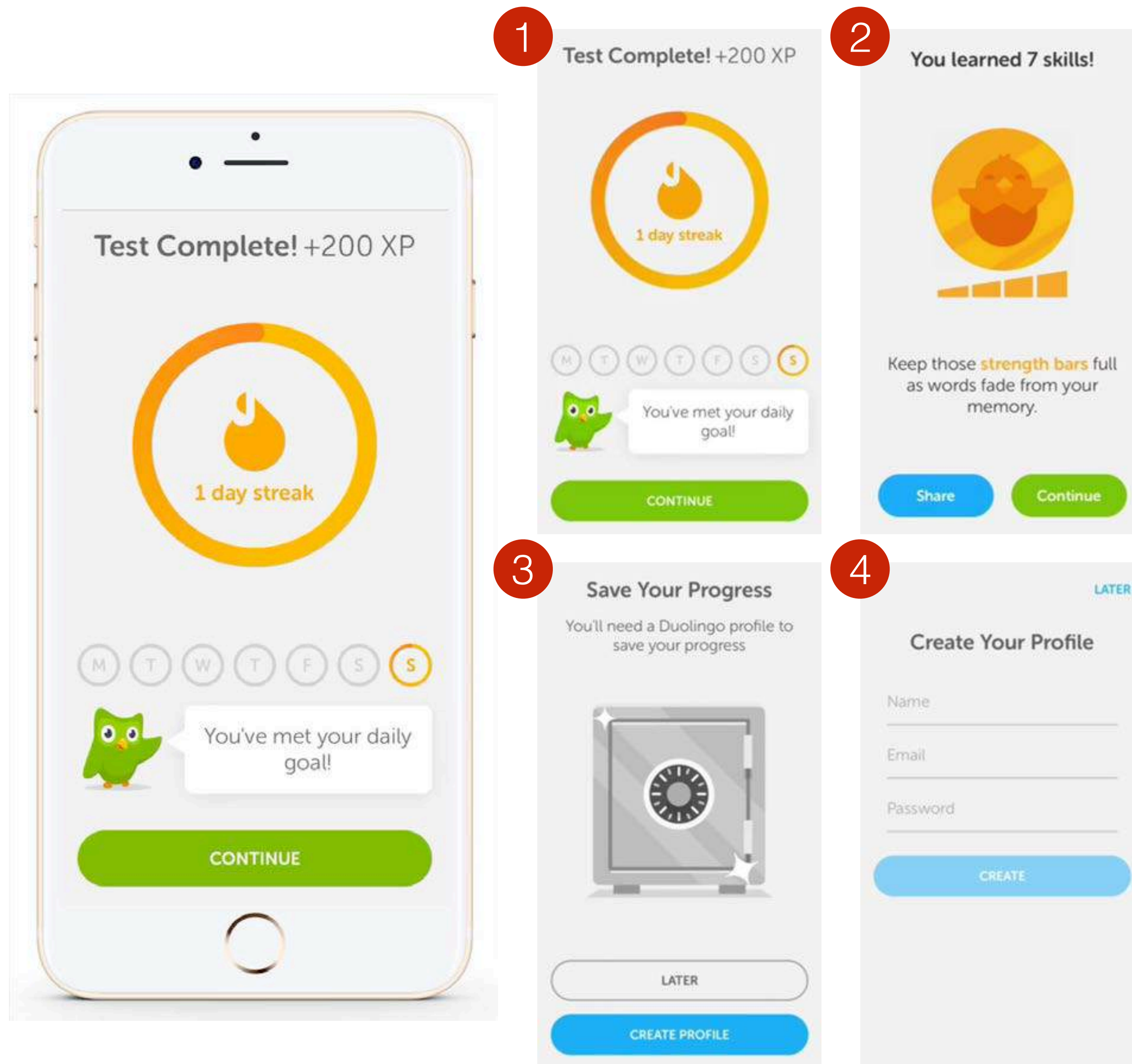
Daily Goals, Skill Bars, Creating a Profile

After you're done with the beginner exercises or placement test, your daily goals and skills earned are shown. You also make an account now.

1. Imagery and color were used in the streaks to represent fire with icon and the orange to red gradient. It's represented with a ring to give the learner a sense of wholeness when their goal is met. The 7 days of the week is a visual cue when you've met your daily goal and when you haven't. It makes you feel good, but also makes you guilty if you forget.
2. The gold for finishing the skills is similar to a medal for your accomplishments. The animation of the skill turning gold definitely adds to the excitement. These are all "feel goods" to keep you motivated to keep working on skills. Strength bars is written in the same gold color to register to users about the importance of what the bar is so they can keep that in mind.
3. Bright colors are used for the call to action buttons such as "share", "continue", or "create a profile", yet is a grey outline for "later" for choosing not to create an account because it is a secondary action.
4. Creating your profile is kept short and sweet. Just name, email, and password that are greyed out in the input area and will disappear to keep the layout clean. There's also an option of making your account later but small and on the top right to stay out of focus more and direct users to create an account.

APP CONTENT
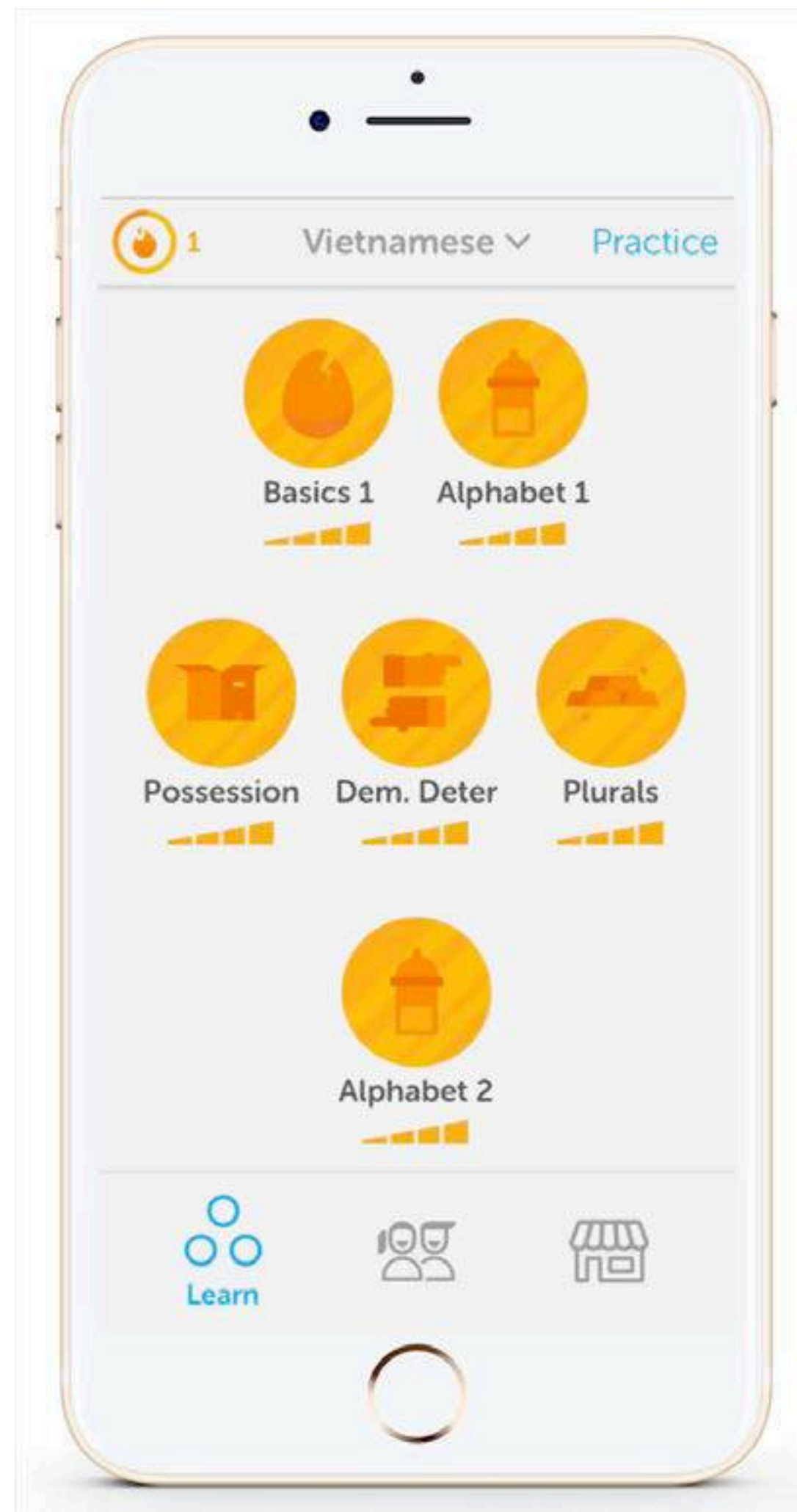
Skill Tree

The homepage is where all the courses for that particular language are. The courses are put together in a gamified skill tree that users can progress through and gain XP points when they complete a lesson. Skills are considered "learned" when users complete all the lessons associated with the skill.

Colors and illustrations are definitely used in the skill trees to separate each skills. Gold skills means that you're finished that skill. There is also a bar under each skill to show when you need to refresh on that skill. Each skill that haven't been unlocked yet is greyed out and cannot be accessed. However, there is an option to test out of the skills by pressing on the "test out of skills" below each set of skills. There is even a key icon to represent unlocking.

● Explanation
● Analysis
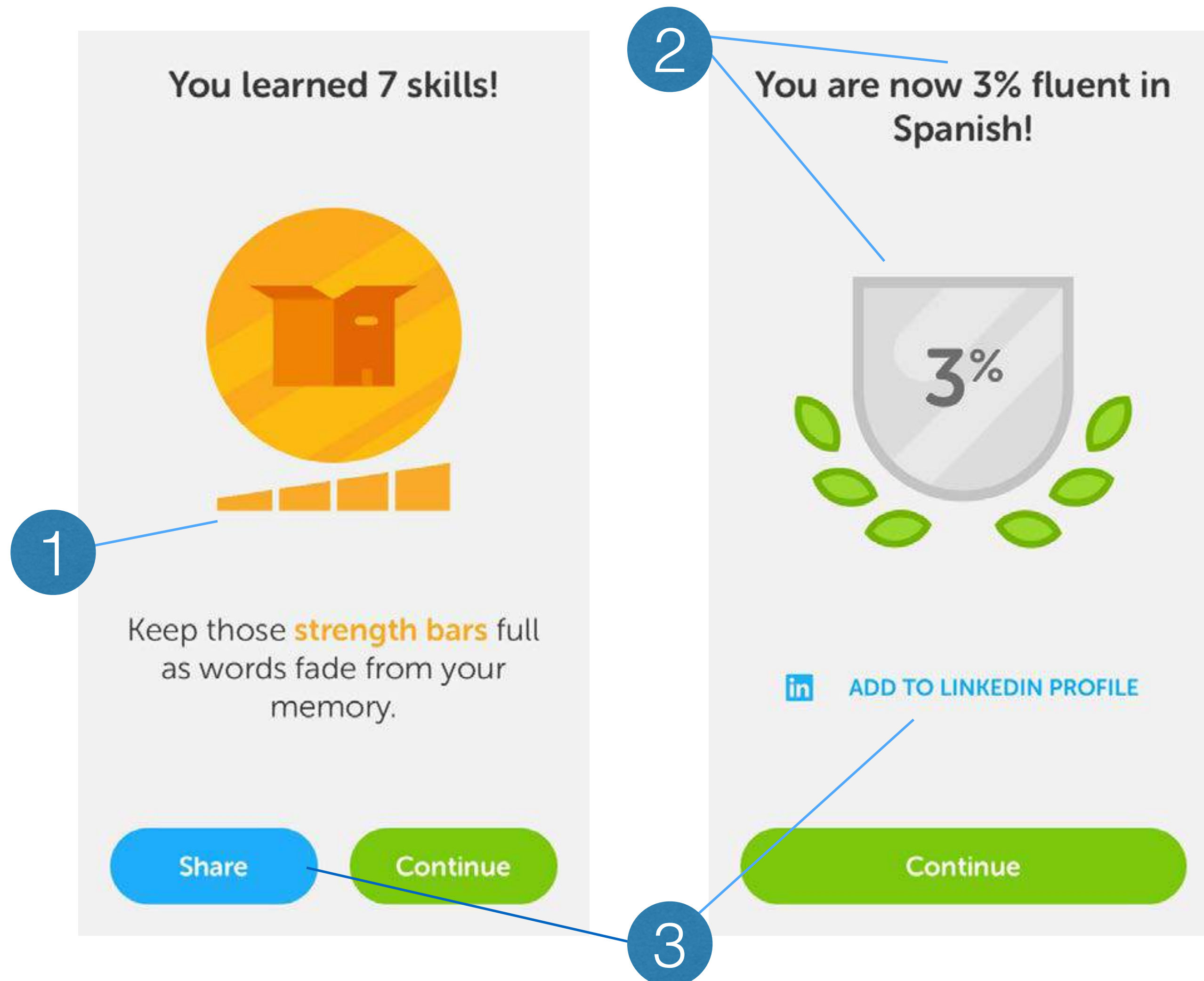
Data Visualization

Duolingo uses a lot of data visualization because it helps people learn more by helping them track and quantify how much they have learned. The cute fun illustrations and icons keep the users feeling undaunted.

1. Duolingo tracks how strong you are in every word and linguistic concept. This strength bar can be used to represent strength of words, lessons and skills. The color of the bar stays all gold if you remember to review but gradually turns to a warning red if you forget. This catches people's attentions to review.

2. Fluency measures your mastery of the vocabulary and grammar of a language and your ability to understand and produce the language with a percentage. Users comprehend data easily on a 0-100% scale.

3. The bright blue colors for social media stand out from everything in the two screen shots to place emphasis on the "sharing" your progress and "add to Linkedin Profile". The colors are a call to action so that users will share their achievements to all their friends and families and create more users.

● Explanation
● Analysis
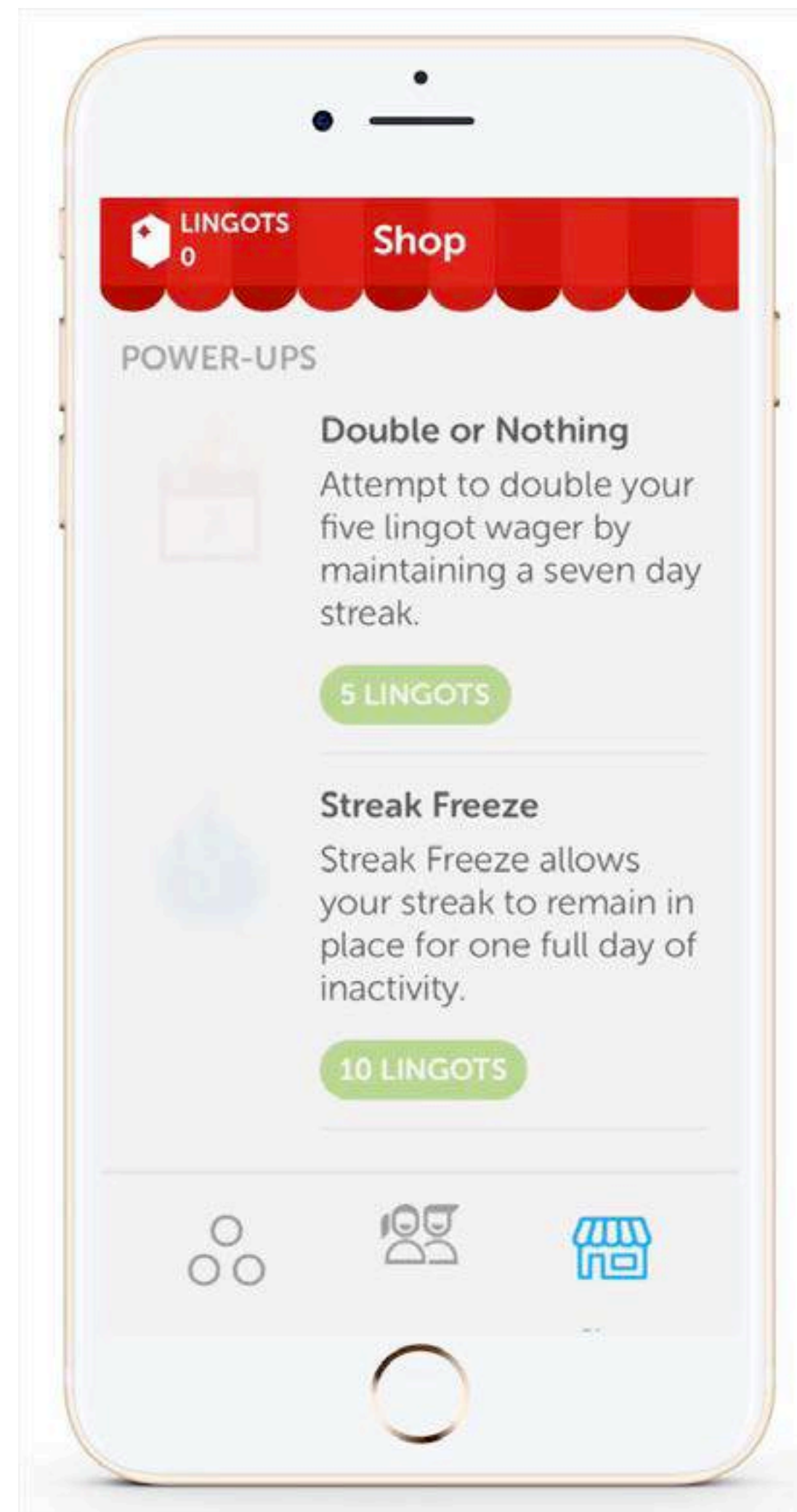
Virtual Shop

Lingots are part of the gamification so users work to level up and complete skills to earn "Lingots", which can be spent on the virtual store for power ups, outfits, and bonus skills.

The virtual shop is designed to look like curtains on a cart or a store front. The number of Lingots is on the very top left, which makes it easy for users to know how many Lingots they have. The items to buy are all separated into different categories and each item has a little illustration beside it with the name in bold letters and a description underneath. The costs of the items are written with a green background to catch the user's eyes and let them know right away how much it costs.

APP CONTENT

Explanation

Analysis
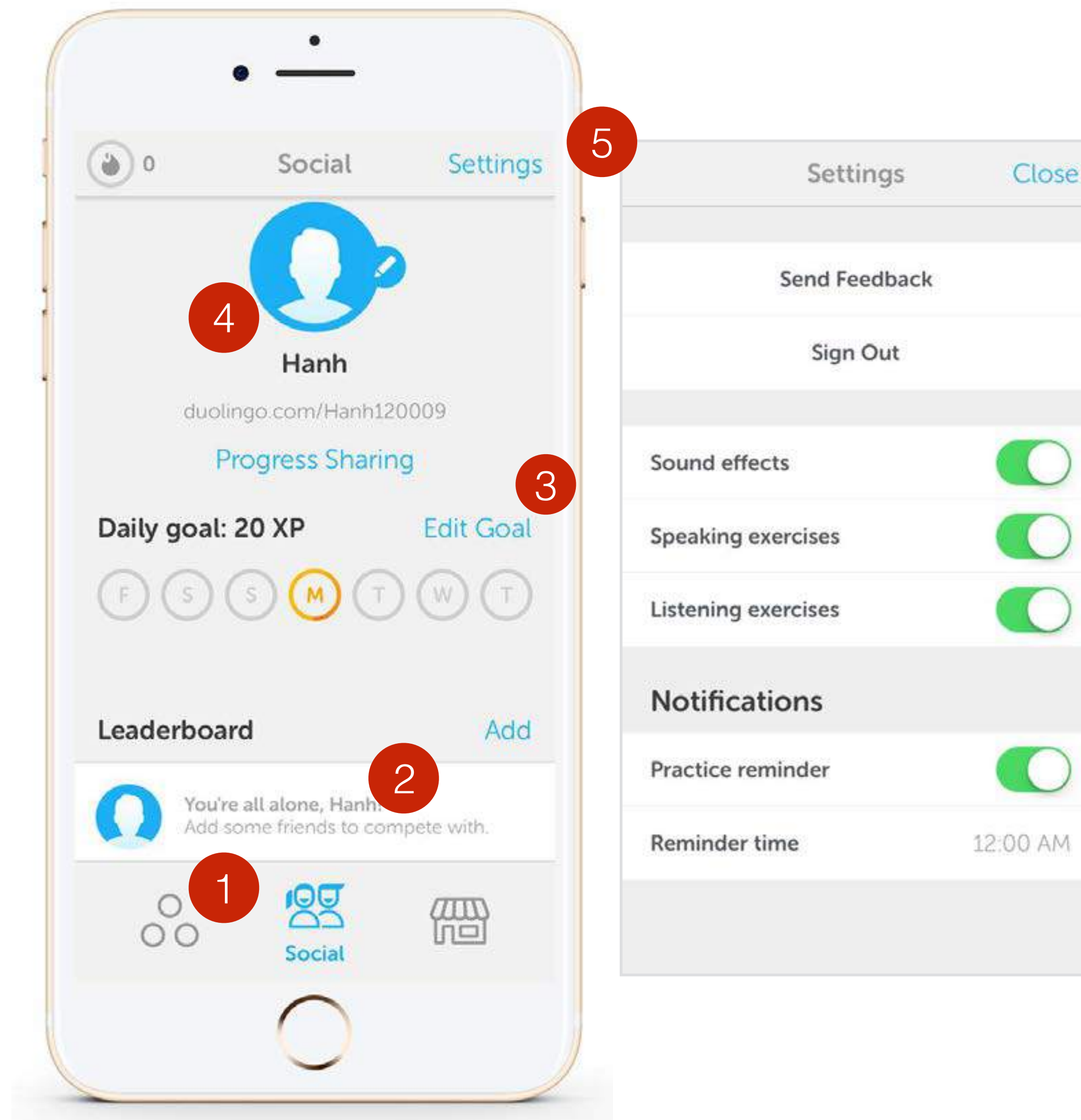
Social

The app keeps it's navigation simple. There only three options in the navigation bar. The homepage is the skill tree with all the courses, then the last is the virtual shop where you can spend you Lingots. The second option is social which is also your account settings.

1. Whichever page you're on becomes a blue color while the other tabs on the navigation bar stays grey. Also a description for what that page is comes up. This one says social and has your account information and leaderboard.

2. It is social and it wants you to invite your friend as part of the gamification to compete with one another and also to share your progress. It benefits Duolingo to have more people share and invite their friends and families.

3. This is your account after all so it shows your daily goal. It also allows you to edit your goals.

4. You can add and edit your profile photo so your account feels your own especially when you're competing with other people.

5. Setting is on the very top right and has all the normal settings such as signing out, toggle on and off of all the sound effects, speaking exercises, and listening exercises and also notifications.
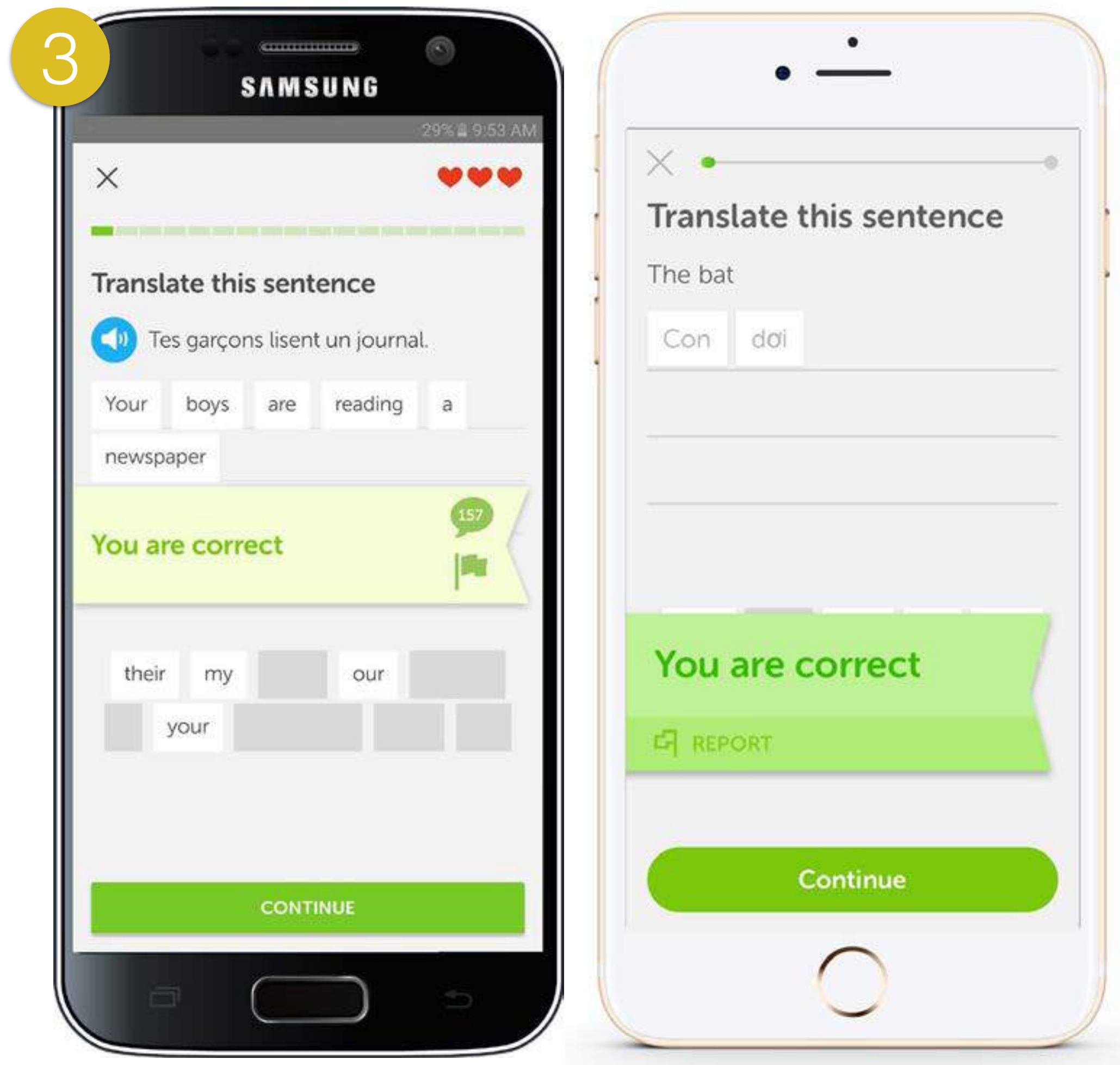
APP VERSIONS

Android vs. iPhone
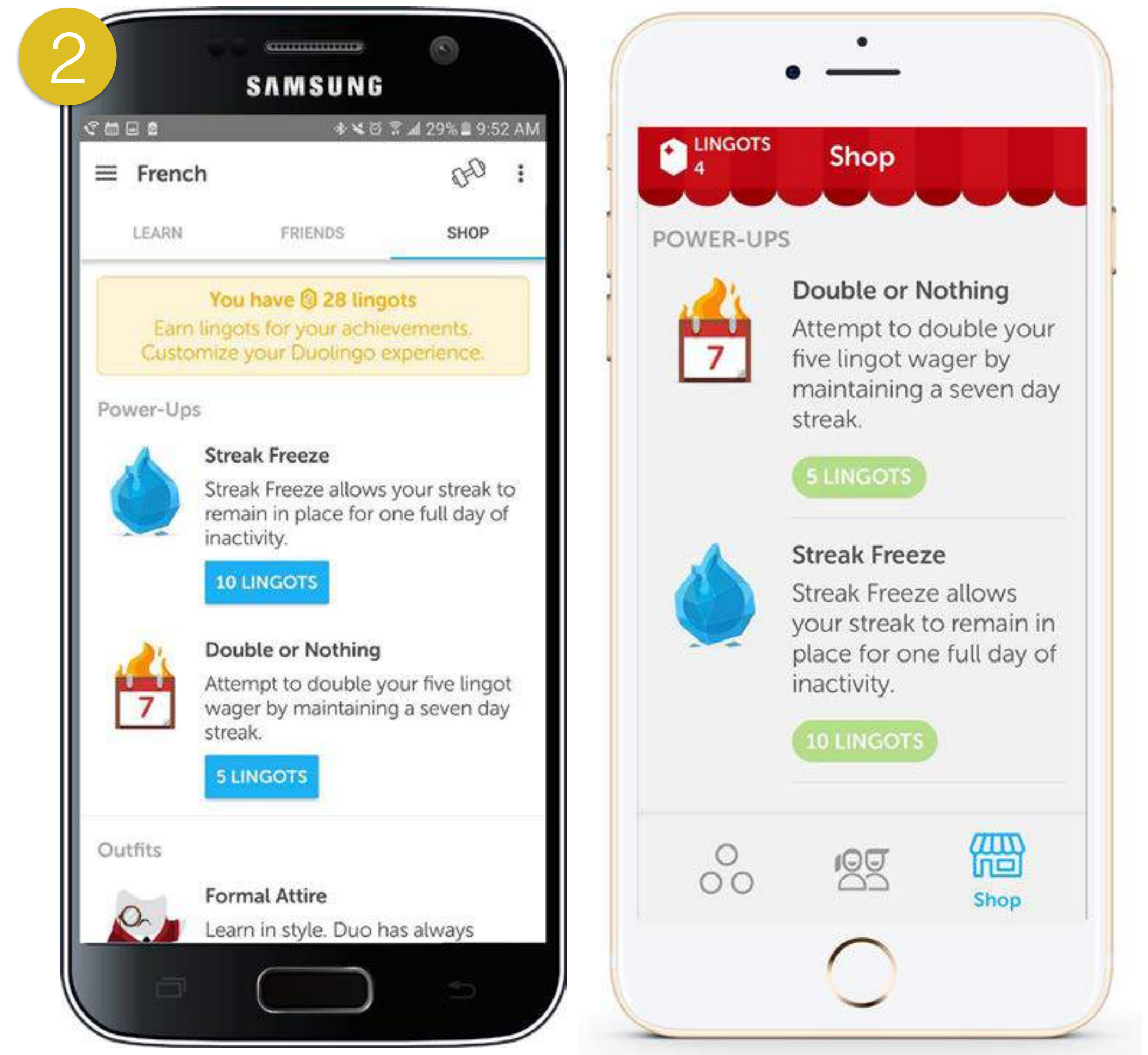
# APP VERSIONS

Android vs. iPhone

Overall iPhone and Android are very similar to one another in terms of content, color, typeface, and illustrations.

However, it's different in some areas like the shape of the buttons with iOS having a more rounded shape. The navigation for different courses like in Example 1 is pretty drastic where Android uses the hamburger menu, while iOS uses a drop down menu when you click on the name of the language.

Android still has the old hearts system where you lose hearts each time you mess up. Overall, however, the Android version has more content than iOS versions. Android has is the comments feature, so when you do a lesson, after every answer you can check out what others have had to say about it, which is really useful. This is also offered on the website version.
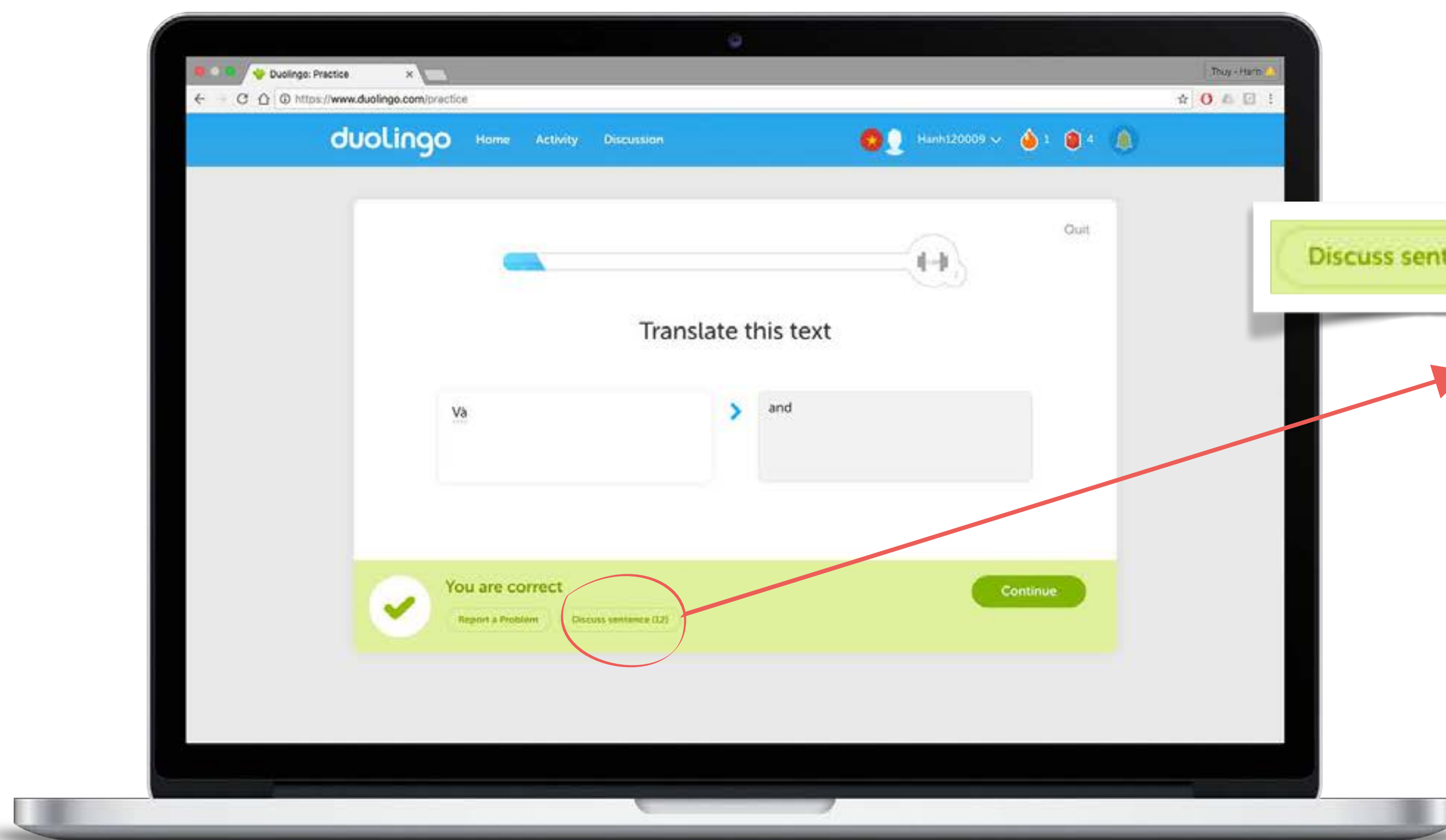
APP VERSIONS
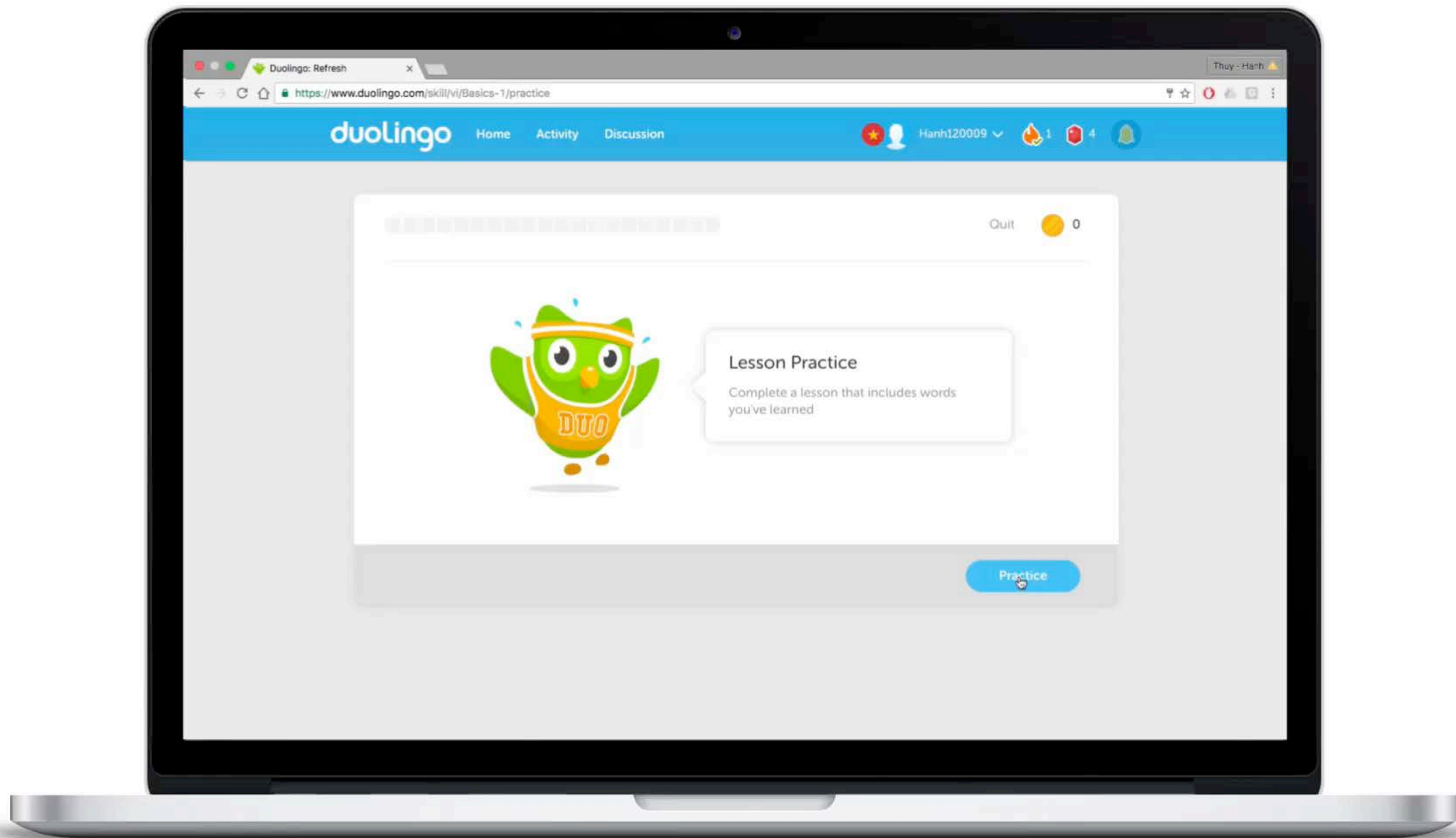
Website

Although 20% of traffic comes from desktop users and 80% from mobile app users, the website is also very well designed. It has almost the same content that the mobile has and more. Duolingo for Schools dashboard is entirely on the website and also has more tips and grammar for learning languages. The Immersion part of Duolingo is also web only along with the forums. The website makes it easier for the community to talk to one another.
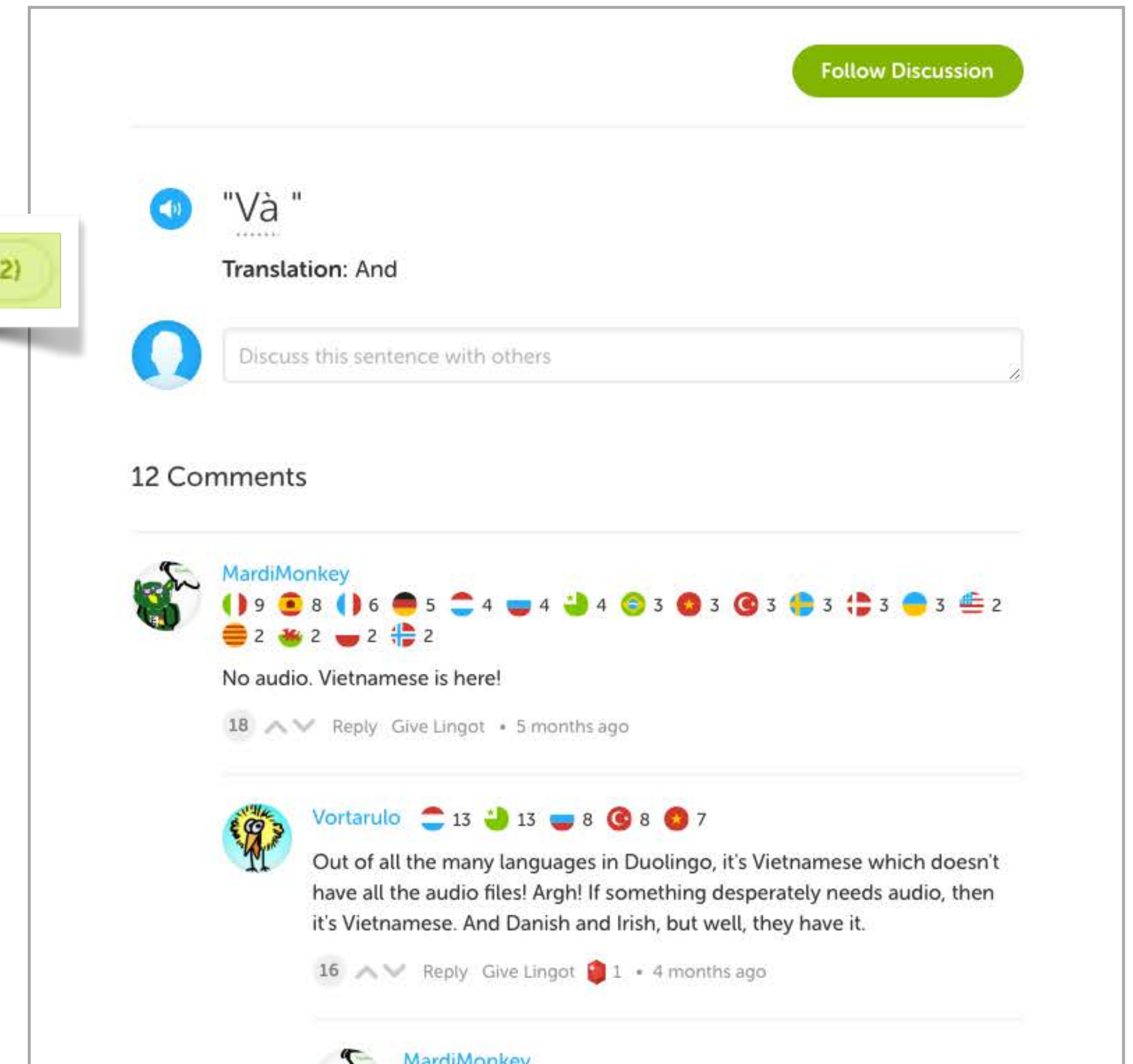
The exercises compared to iPhone is very similar in the way the tasks are laid out and interaction. The UI and design is also carried through with the same colors and Duo the mascot is still there.
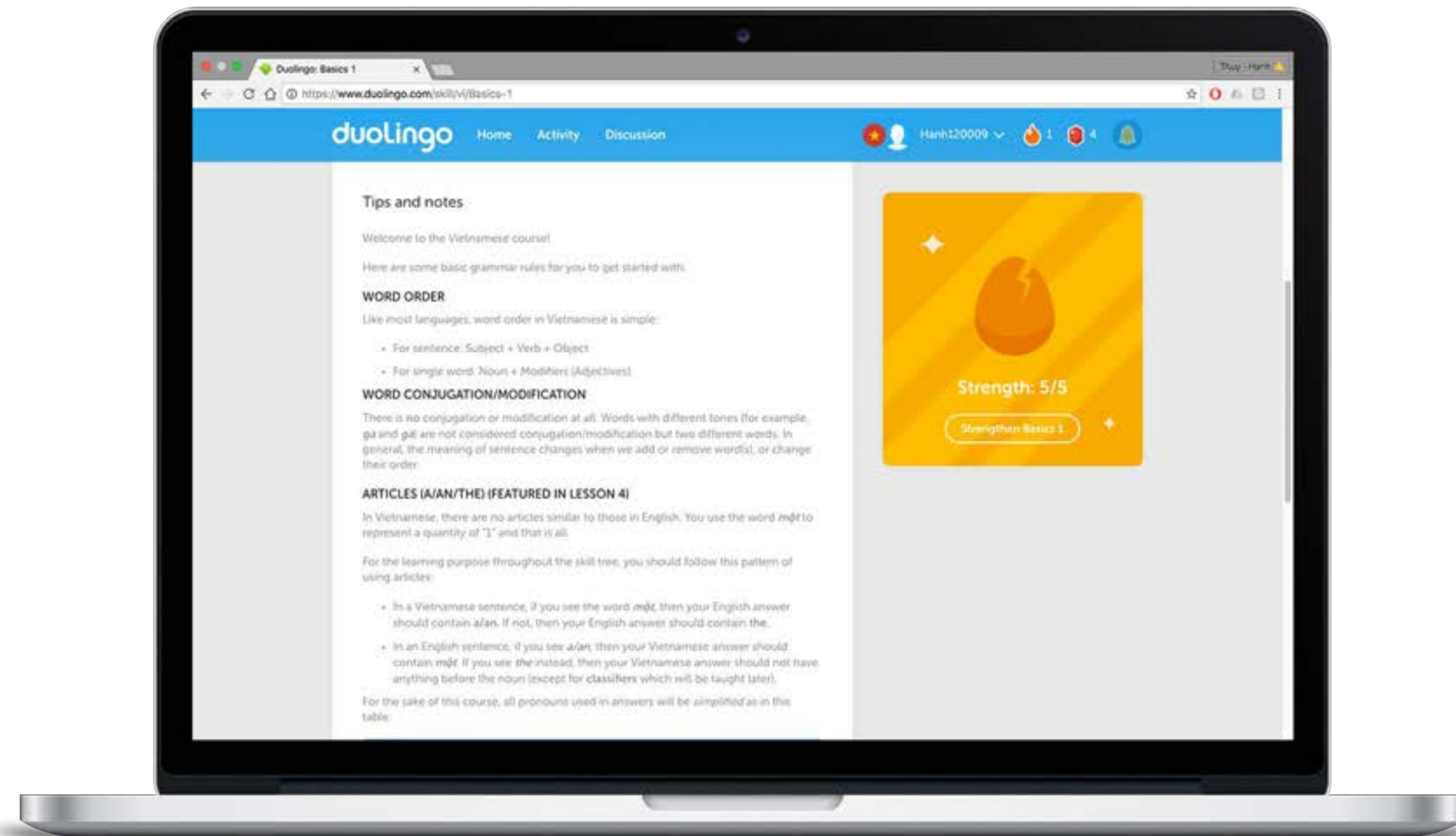
Website

My favorite thing about the website is that users can have discussions to better understand. It's also a great way for Duolingo get feedback on what users think of the exercises.
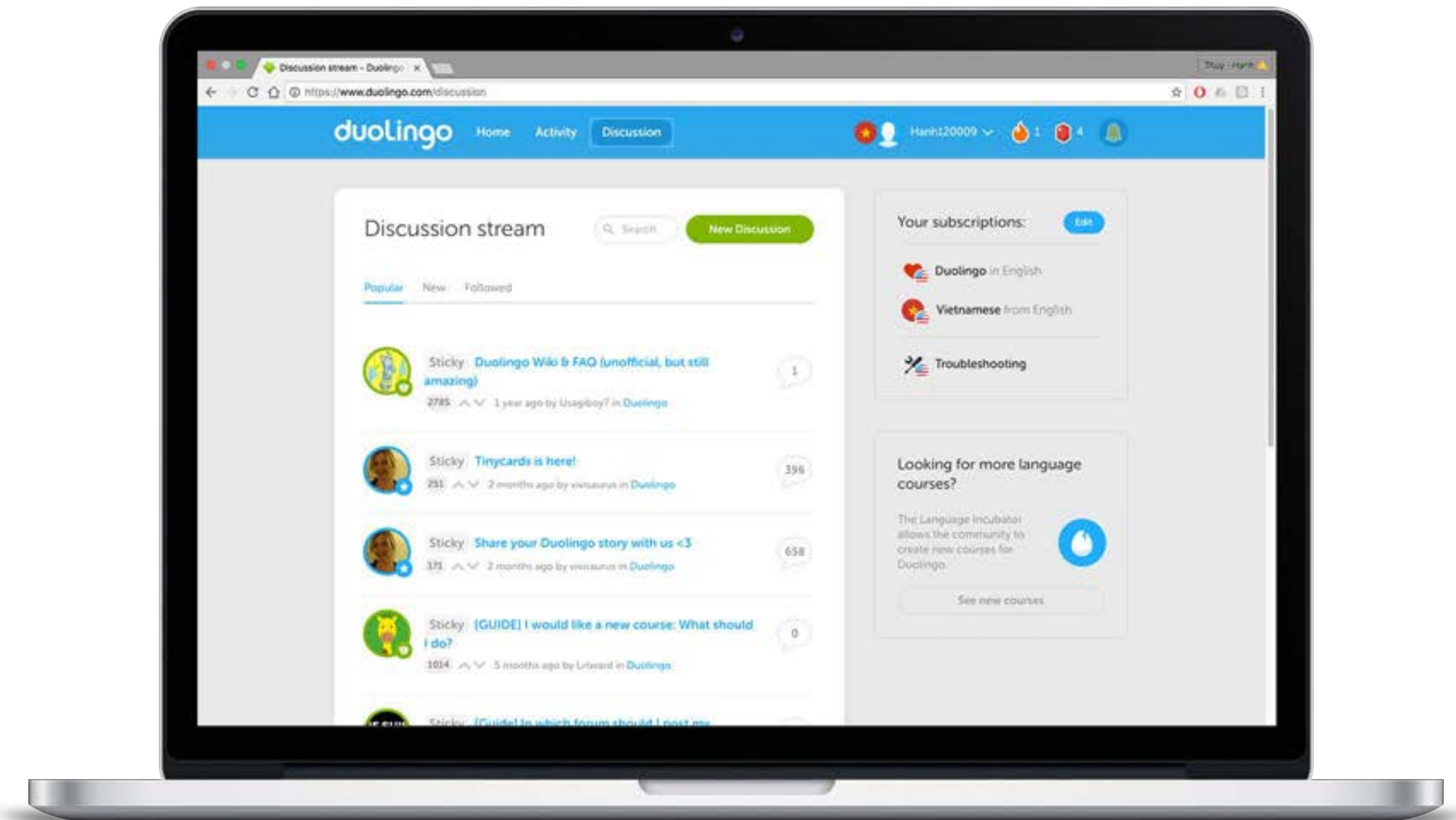
Website

Tips and Notes

Discussion Streams

Other things that the website version has that isn't on mobile is the tips and notes and the forum called "discussion stream". The tips and notes are definitely something that the mobile versions lack as it better explains and teaches grammar and other things to help.

COMPETITIVE APPS

There are many apps out there that accomplishes the goal of learning a new language such as Rosetta Stone, however, I chose to go with Babbel and Busuu because it's similar to Duolingo. The main differences between Duolingo versus Babbel or Busuu is that Duolingo is completely free and offers a lot more languages. Duolingo also offers 23 languages with many more in development compared to Babbel's 13 and Busuu's 12.
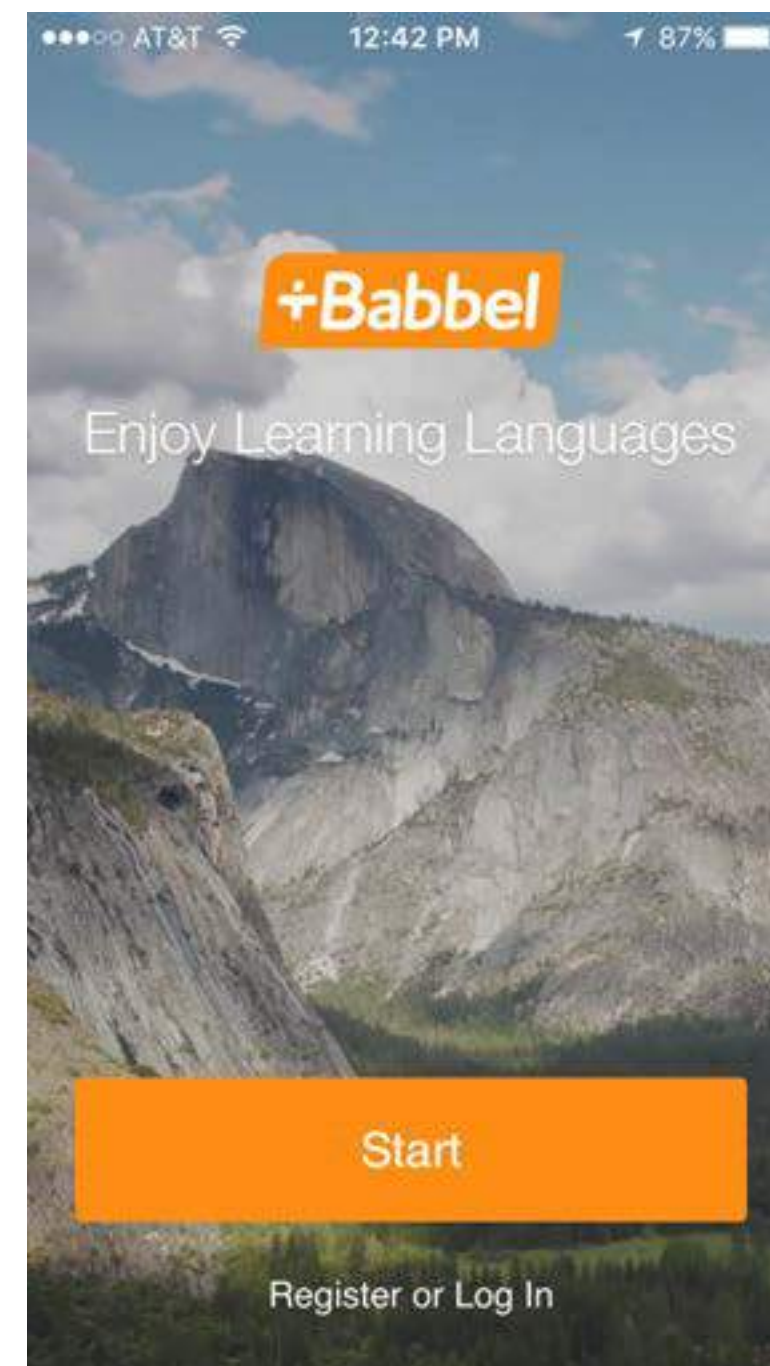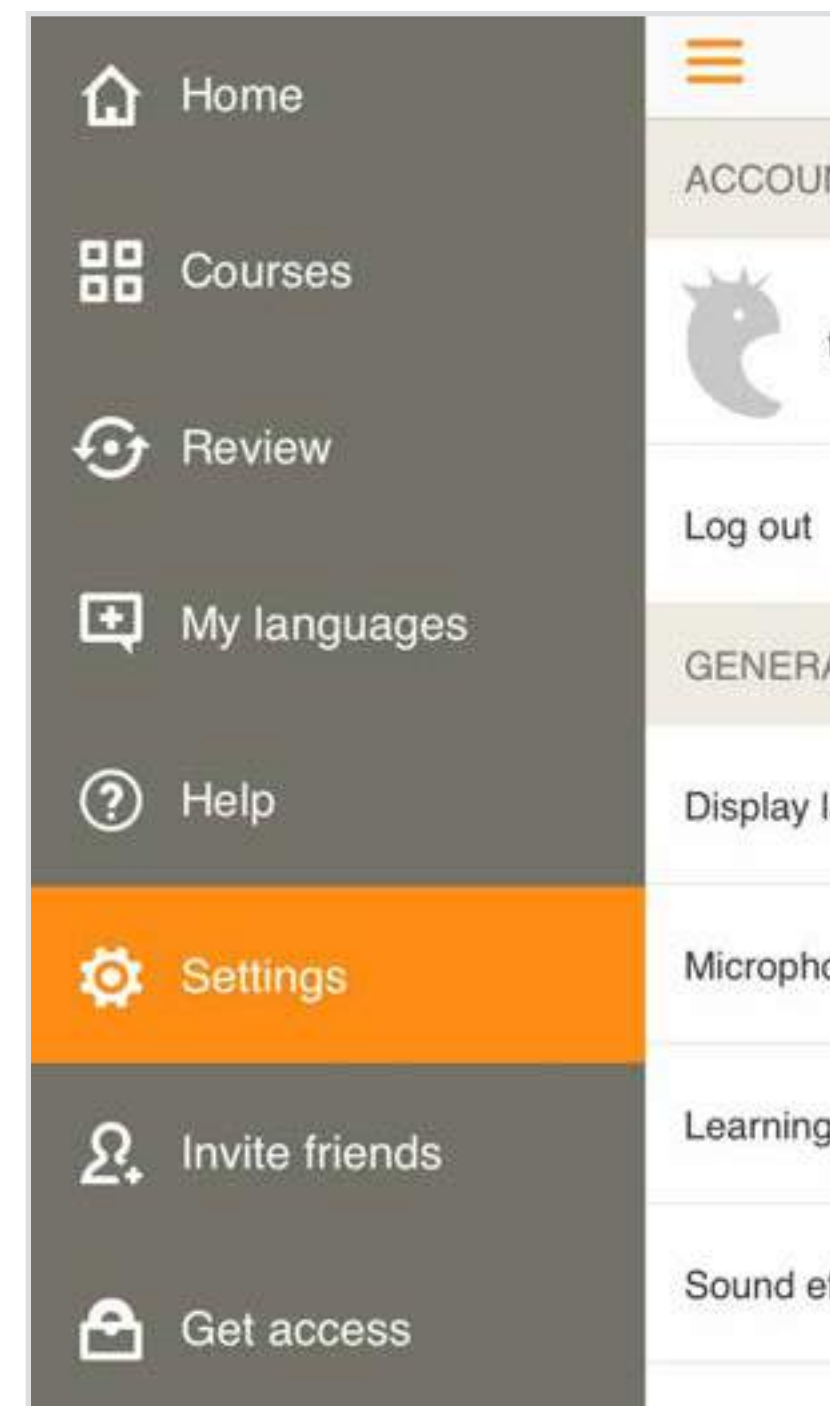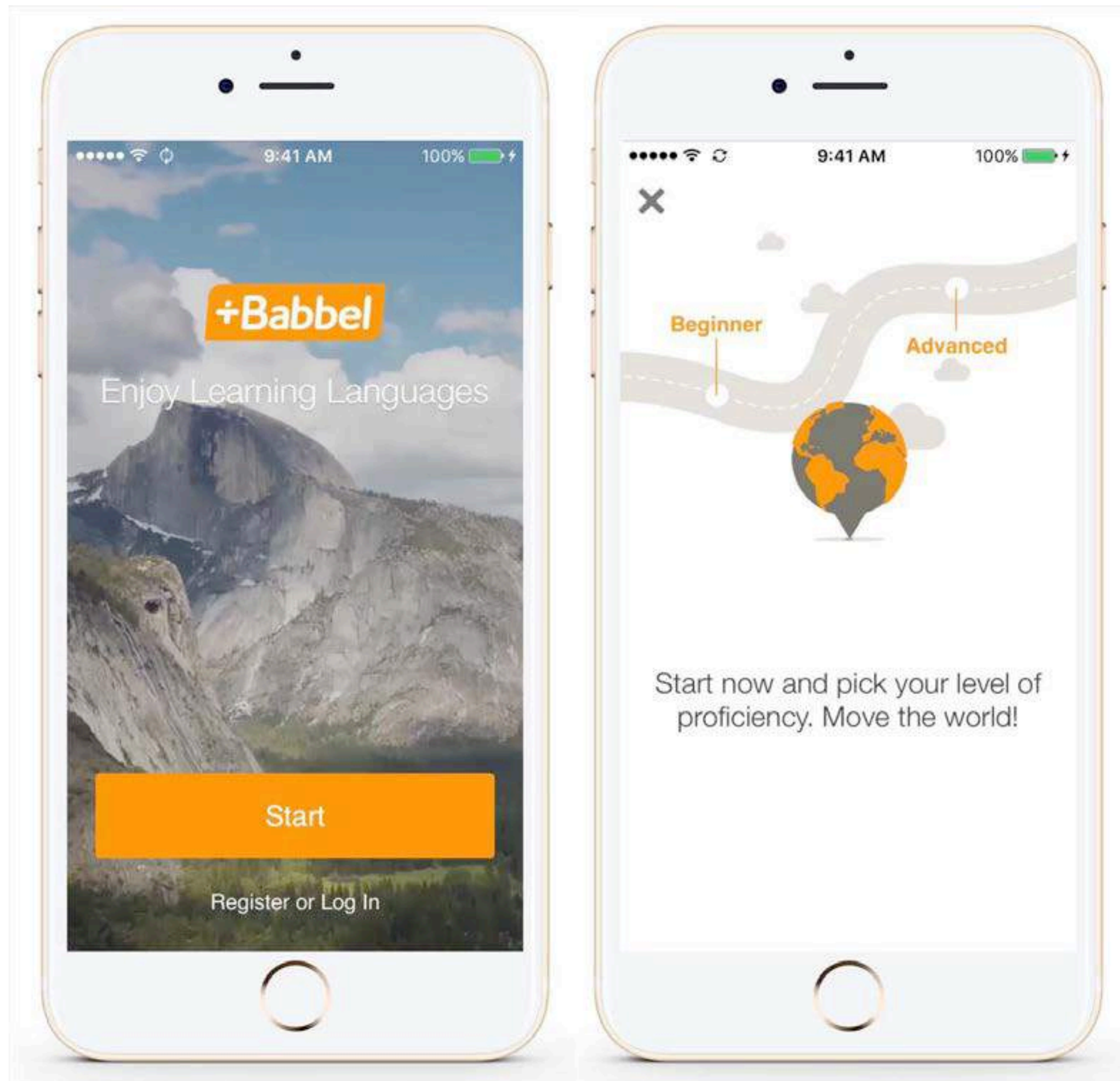
Babbel

This app is a great competitor for Duolingo. The design is clean and simple and it incorporates it's own style of illustrations along with real photos to create an elegant app. The onboarding screen is short and simple for a new user to start and test out an the app before signing up. It asks plenty of questions to cater learning the language to your skill levels.

The free version comes with 40 classes and allows you to pick from the 13 languages it teaches.

Each class build on vocabulary with the aid of pictures into phrases and dialogue. The app has speech recognition exercises, Pop-ups explain most important grammatical points related to the learned material and the desktop version includes short cultural notes.
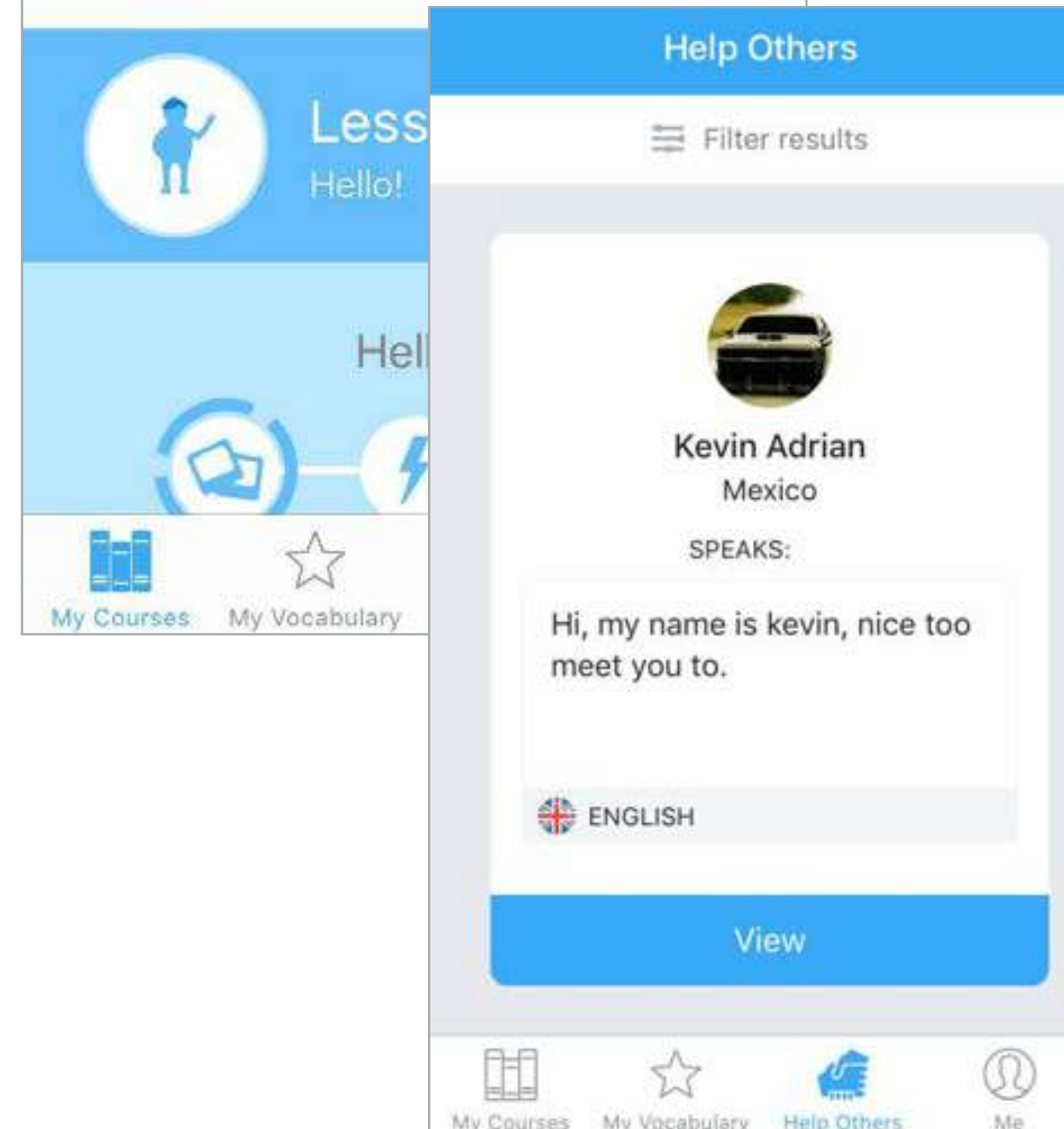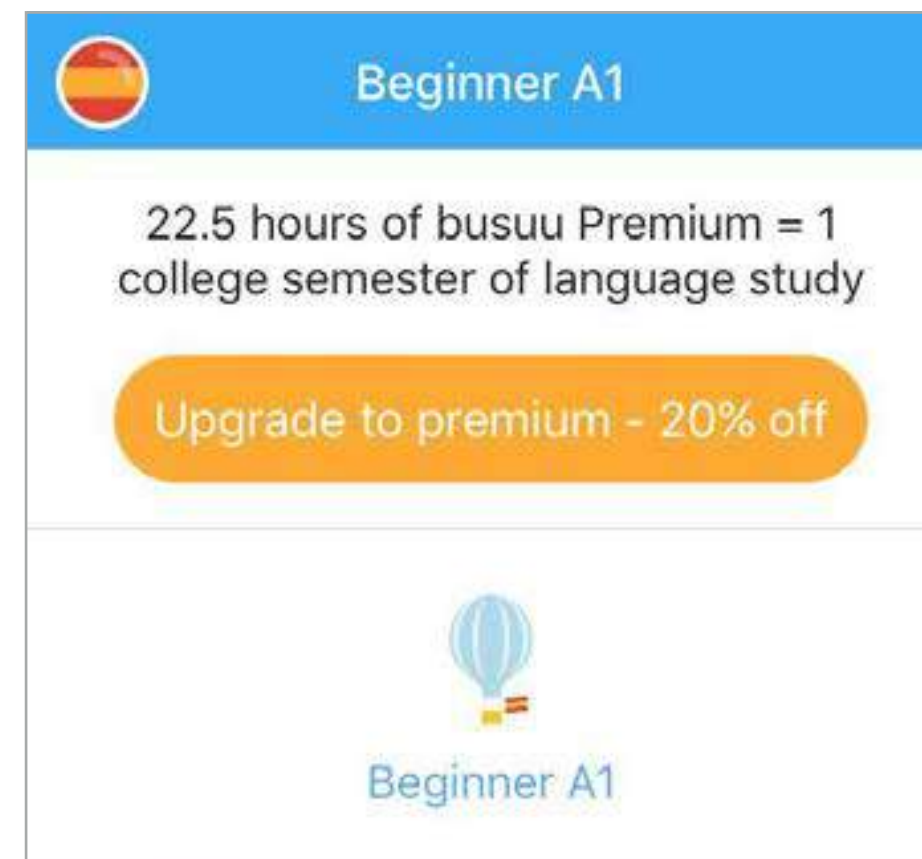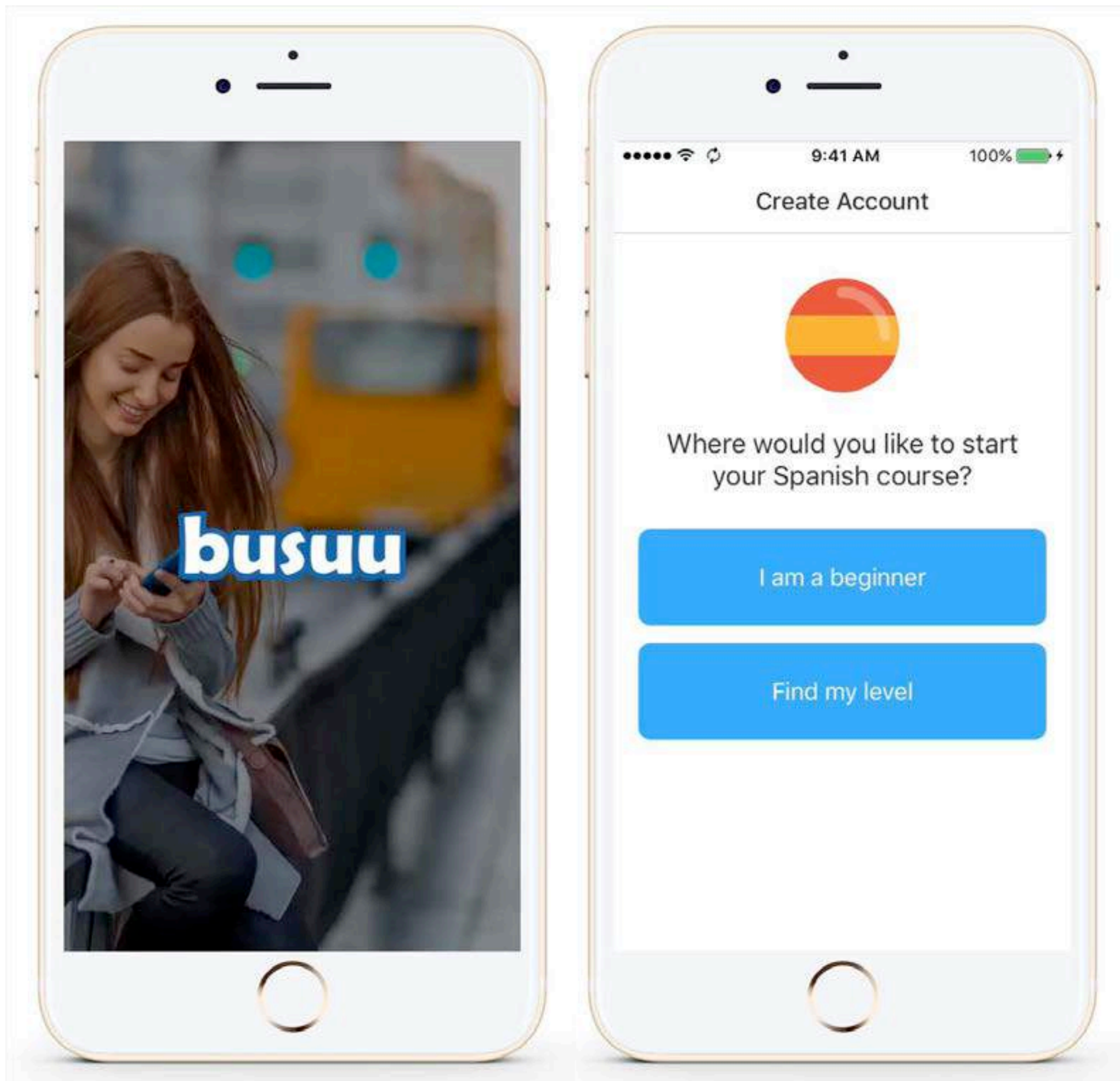
Busuu

Busuu offers full courses in 12 languages. The app is free but to unlock most of the features and course materials you have to pay $17 a month. The app employs a gamification model similar to Duolingo.

The special aspect of Busuu is that you can engage native speakers. Busuu learners contribute their native speaking skills to the platform by correcting texts created by those who study their language.

My problem with using Busuu compared to Duolingo is that it asks you to sign up right away. As a user, I want to be able to test a product out before I fully invest making an account and receiving spams.

Also the app keeps advertising to upgrade to premium and it takes away from the experience.

CONCLUSION

Overall

From classrooms to the real world where people just wanting to learn a new language, Duolingo is considerably one of the best language learning apps out there and for the free price, it brings a lot of value to the users. With an overall 5 stars rating from 145940 users in all versions on the App Store, there's no denying how much users enjoy Duolingo. It is more than just a language learning app, it is a community working together.

Design - Images & Visuals

Duolingo is very strict in it's design guidelines, carrying the same style of colors. illustrations, icons, and typography across all the UI of their devices and products they create. Their style has become part of their brand. They keep their designs fun and undaunting for users as they progress through the exercises.

User Experience

This app delivers a great user experience with it's usage of gamification to keep interests by competing against yourself or others. The interaction from picking a language to finishing the exercises are all smooth and flowed together. Duolingo definitely put a lot of thought into what would be best for the users. It's very well thought out and offers so many things for a free app like users can access some courses offline on the mobile devices or go into their settings to turn off speaking or listening exercises if they're in public. They can also take the experience to the website and join the huge community of people in the forums, immersion, and become language contributors. There's so many things to experience.

Possible Improvements

Duolingo's status bar reverts back after a certain amount of time to let you know you need to review a skill. However, there are some really basic things that is hard to forget and it makes you repeat the very first lesson over and over. It gets annoying and repetitive. They could have newer courses added instead to help review.

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