

shareholder letter Q1 2024



**our mission is
to develop the
best education
in the world
and make it
universally
available.**



Q1 Highlights

User Metrics	Q1 2023	Q1 2024
Daily Active Users	20.3M	31.4M 54% YoY
Monthly Active Users	72.6M	97.6M 35% YoY
Paid Subscribers at period end	4.8M	7.4M 54% YoY
Paid Subscriber Penetration as % of MAU*	8.0%	8.6%

Financial Metrics	Q1 2023	Q1 2024
Revenue	\$115.7M	\$167.6M 45% YoY
Total Bookings	\$140.1M	\$197.5M 41% YoY
Net (Loss) Income	\$(2.6)M	\$27.0M
Adjusted EBITDA	\$15.1M 13.1% margin	\$44.0M 26.3% margin

*LTM MAU

Dear shareholders,

2024 is off to a strong start. Here's a summary of our first quarter results:

First quarter highlights

- Total bookings were \$197.5 million, an increase of 41% from the prior year quarter;
- Subscription bookings were \$161.5 million, an increase of 47% from the prior year quarter;
- Paid subscribers totaled 7.4 million at quarter end, an increase of 54% from the prior year quarter;
- Daily active users (DAUs) were 31.4 million, an increase of 54% from the prior year quarter, and monthly active users (MAUs) were 97.6 million, an increase of 35% from the prior year quarter;
- Total revenues were \$167.6 million, an increase of 45% from the prior year quarter;
- Net income was \$27.0 million, compared to a net loss of \$2.6 million in the prior year quarter;
- Adjusted EBITDA was \$44.0 million, compared to \$15.1 million in the prior year quarter, a 26.3% versus 13.1% Adjusted EBITDA margin, respectively; and
- Cash flow from operating activities was \$83.5 million compared to \$29.6 million in the prior year quarter, and free cash flow was \$79.6 million compared to \$28.8 million in the prior year quarter.

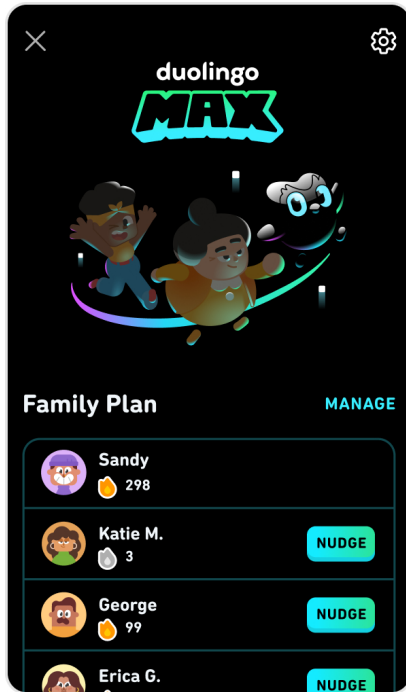
The strength across all these metrics shows that we continue to execute well on our strategy.

What to expect in 2024

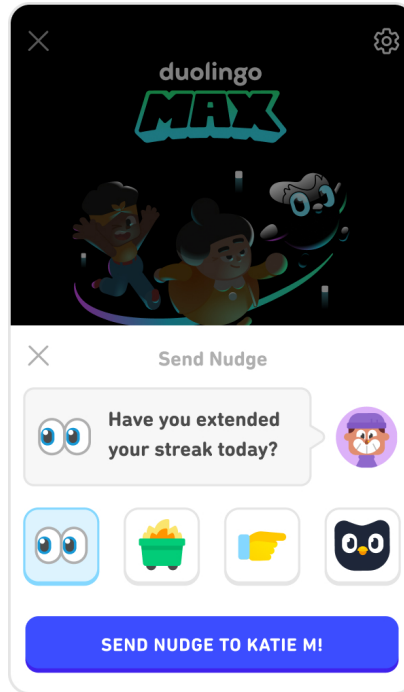
We've raised our guidance for bookings, revenue, and profitability for the full year because we're excited about our near-term opportunities, which remain consistent: user growth, optimized subscription conversion and tiers, and family plan.

We believe our user growth will stay strong because of word-of-mouth appeal, our ability to increase engagement through continuous product improvements, our international growth opportunity, and our creative marketing. In the first quarter, we saw our DAU/MAU ratio reach a record 32%, and we grew social media impressions significantly thanks to viral content and campaigns, including our Super Bowl ad, which helped drive brand buzz. We started Q2 strong with our [April Fool's](#) brand moment.

In terms of monetization, we recently increased the rollout of Duolingo Max, our highest subscription tier with generative AI features, and we expect to continue optimizing our subscription tiers throughout the year. We also plan to continue improving our family plan, which is still in its early days. We recently made it easier to find and add your family members, and next month, we'll experiment with a new feature, called Family Quest, that encourages families to work together towards a common goal (see screenshots below).



Find and encourage family members



Family Quest

Growth beyond 2024

Looking beyond 2024, our growth strategy remains focused on leveraging our core competencies: an engaging user experience, a freemium business model, data-driven decision making and a robust **experimentation** infrastructure, and a distinct brand identity.

- **We have created a fun, engaging, and effective product** that learners love, and also helps them feel good about how they spend their time;
- **Our freemium model** has established us as the category leader and helped us scale to the point where our learners complete over one billion exercises every day;
- **We use this massive collection of data** to run hundreds of experiments each quarter, and we combine that output with AI to create personalized learning experiences in order to fuel user growth and engagement, efficacy, and monetization;
- **We've made our brand more iconic**, especially our mascot Duo, and both have become synonymous with gamified learning.

Over time, these capabilities are what we will use to grow the number of English learners and subscribers on our platform, and how we will expand beyond language learning with new subjects like music and math.

Our English learner initiative is not only fundamental to our mission, but also it builds on our strengths, and we believe it will provide additional growth over the long term. Although the vast majority of language learners in the world are learning English, they represent less than half of our DAUs. We believe that offering more advanced English content will allow us to attract more learners and meaningfully expand our user base. We significantly

expanded our roll out of such content last fall, and now more than one million DAUs interact with it. We also just released a stand-alone intermediate-level English course, which only has exercises in English, and can be used by any learner regardless of their native language. We believe this will allow us to expand our user base more rapidly in more geographies.

Our latest efficacy [research](#) published in a peer-reviewed journal shows that beginner-level English learners achieved standardized proficiency scores higher than the level of Duolingo course material they completed, showing that learning English on Duolingo is already highly effective, especially for beginners. Additionally, two recent studies by independent university researchers show that Duolingo English learners in [Colombia](#) and [Spain](#) gain more proficiency than students in a classroom. This is a good indicator that our ongoing improvements to our English offering are paying off.

In terms of expanding beyond language learning, we've been investing in our music and math courses, which apply our successful gamification approach and empower users to learn these subjects in a fun and approachable way. We believe that a lot of what we've unlocked in language learning applies to these subjects, and that we can create meaningful businesses out of them.

In closing

We plan to keep investing in innovative ideas that we expect to pay off for many years to come. If you'd like to learn more about our product-led growth and innovation, check out some of our senior leaders talking about our [product principles](#) and our approach to [risk-taking](#).

Until next time, don't forget to get your tickets to [Duolingo on Ice!](#)



A stylized, handwritten signature in black ink, appearing to read 'Luis von Ahn'. The signature is positioned to the right of the face illustration and above the name and title.

Luis von Ahn
CEO and Co-Founder

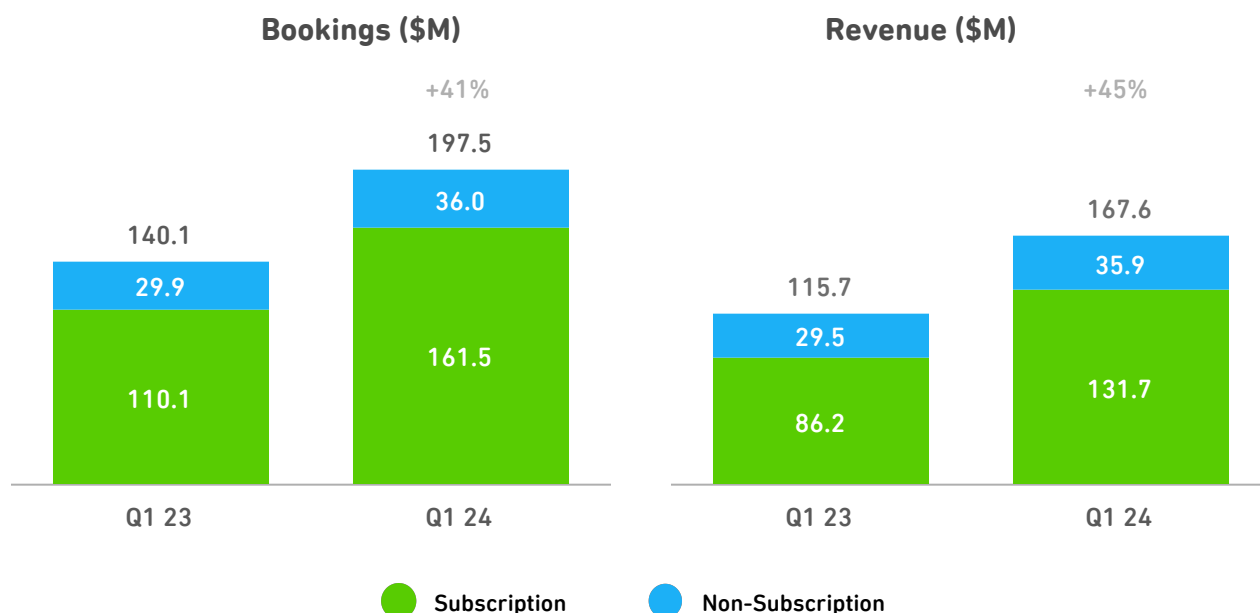
financial performance and outlook

Summary of Financial and Key Operating Metrics

(in millions)	Q1 2023	Q1 2024	YoY
User Metrics			
Monthly active users (MAUs)	72.6	97.6	35%
Daily active users (DAUs)	20.3	31.4	54%
Paid subscribers (period end)	4.8	7.4	54%
Operating Metrics			
Subscription bookings	\$110.1	\$161.5	47%
Total bookings	\$140.1	\$197.5	41%
GAAP Financial Measures			
Revenues	\$115.7	\$167.6	45%
Gross profit	\$84.2	\$122.4	45%
Gross margin (%)	72.8%	73.0%	~30 bps
Net (loss) income	(\$2.6)	\$27.0	nm
Net cash from operating activities	\$29.6	\$83.5	>100%
Non-GAAP Financial Measures (1)			
Adjusted EBITDA	\$15.1	\$44.0	>100%
Adjusted EBITDA margin	13.1%	26.3%	~13 pts
Free cash flow	\$28.8	\$79.6	>100%
Free cash flow margin	24.9%	47.5%	~23 pts

(1) Please refer to the Appendix at the end of this letter for a reconciliation of non-GAAP financial measures to the most directly comparable GAAP financial measure.

Amounts reported in millions are computed based on the amounts in thousands. As a result, the sum of the components reported in millions may not equal the total amount reported in millions due to rounding. In addition, percentages presented are calculated from the underlying numbers in thousands and may not add to their respective totals due to rounding.



In Q1, total bookings were \$197.5 million, growing 41% year over year on a reported basis (and 42% on a constant currency basis), driven primarily by a 47% increase in subscription bookings on both a reported and constant currency basis. Revenues totaled \$167.6 million in Q1, representing a 45% increase on both a reported and constant currency basis, driven primarily by growth in subscription revenue, which grew 53% year over year, and comprised 79% of revenues.

The increase in both subscription bookings and subscription revenue was primarily attributable to an increase in the average number of paid subscribers year over year.

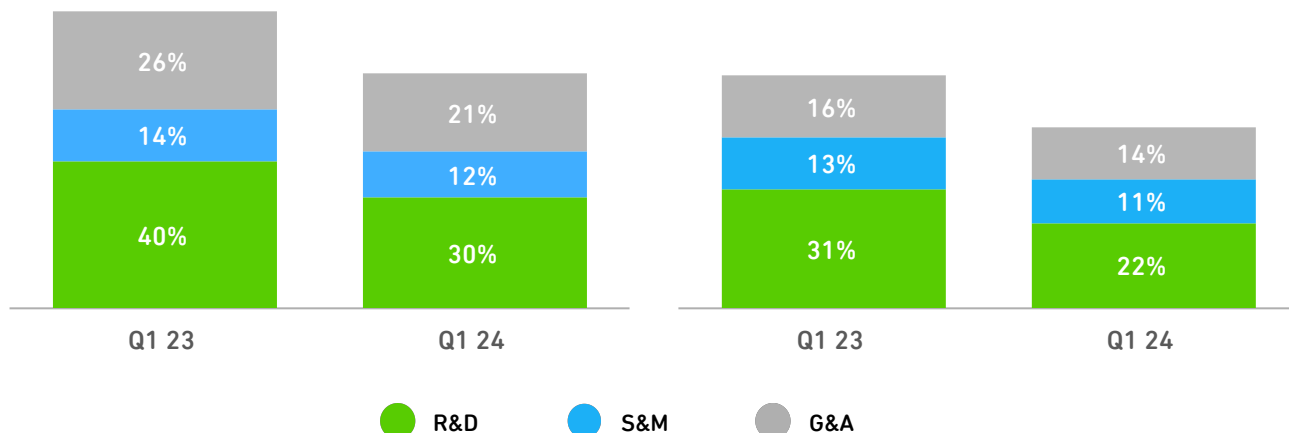
The table below provides revenues by product type:

(in millions)	Q1 2023	Q1 2024	Change	% Change
Subscription	\$86.2	\$131.7	\$45.5	53%
Advertising	11.6	13.0	1.3	11
Duolingo English Test	10.0	12.8	2.8	28
In-App Purchases	7.9	9.9	2.1	26
Other	—	0.2	0.2	>100
Total revenues	\$115.7	\$167.6	\$51.9	45%

Gross margin increased by approximately 30 basis points year over year to 73.0% in Q1. This was primarily due to a higher subscription gross margin contribution from an increase in subscriber revenue as a percentage of total revenue. This was partially offset by lower advertising gross margin, which was driven by lower advertising revenue per DAU and increased amortization of capitalized software.

GAAP Operating Expenses (% of Revenue)

Non-GAAP Operating Expenses (% of Revenue)



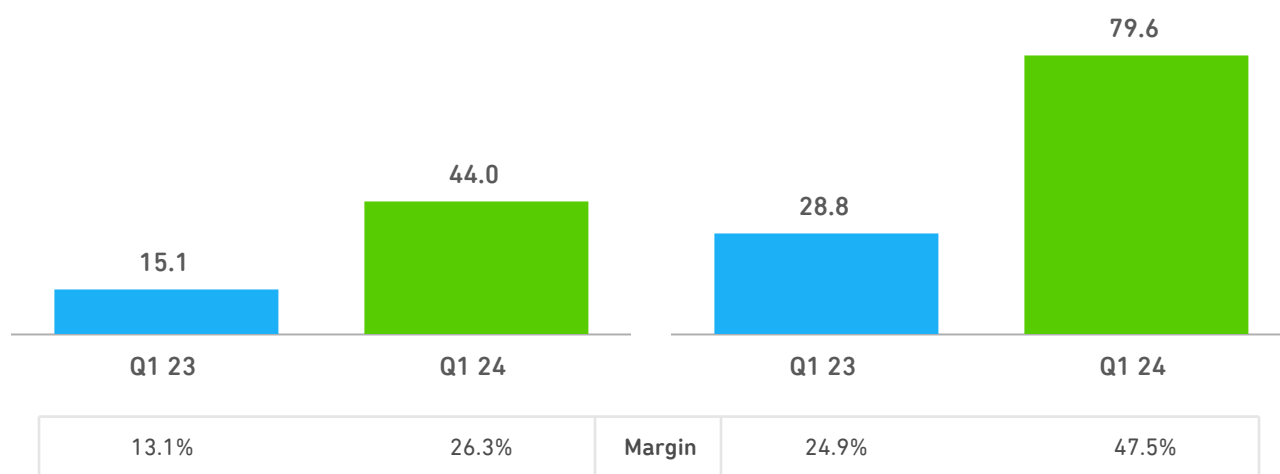
We report three categories of operating expenses: Research and development (R&D), Sales and marketing (S&M), and General and administrative (G&A). Non-GAAP operating expenses† represent GAAP expenses adjusted for depreciation, amortization, stock-based compensation expenses related to equity awards, and other expenses. The most significant adjustment in Q1 2024 was for stock-based compensation (SBC) expenses related to equity awards of \$26 million. Over one fifth of our SBC expense in Q1 was related to our pre-IPO founder equity awards, which are intended to serve as our founders’ sole equity award opportunity through 2031.

In Q1, we achieved significant leverage across total operating expenses, both on a GAAP and non-GAAP basis, because we scaled our revenue faster than our operating expenses. GAAP R&D expense decreased from 40% to 30% of revenue year over year. On a non-GAAP basis, R&D expense decreased year over year from 31% to 22%. GAAP S&M expense decreased from 14% to 12% of revenue year over year. On a non-GAAP basis, S&M expense decreased year over year from 13% to 11%. GAAP G&A expense decreased from 26% to 21% of revenue year over year. On a non-GAAP basis, G&A expense decreased year over year from 16% to 14%.

†Please refer to the Appendix at the end of this letter for a reconciliation of non-GAAP financial measures to the most directly comparable GAAP financial measure.

Adjusted EBITDA (\$M)

Free Cash Flow (\$M)



In Q1, we achieved our highest quarterly Adjusted EBITDA†, which increased by \$28.9 million year over year to \$44.0 million, a 26.3% Adjusted EBITDA margin†. The increase in margin was driven by growth in revenue and improved leverage across all categories of operating expenses.

During Q1, we generated our highest quarterly free cash flow (FCF)† of \$79.6 million, a 47.5% FCF margin†, driven primarily by an increase in cash from operations. Cash from operations increased mainly due to generation of net income during the current period and differences in the timing of amounts received from our payment service providers in the current period as compared to the same period in the prior year.

†Please refer to the Appendix at the end of this letter for a reconciliation of non-GAAP financial measures to the most directly comparable GAAP financial measure.

Q2 and FY 2024 Guidance

Duolingo is providing the following guidance for the second quarter ending June 30, 2024 and the full year ending December 31, 2024.

(in millions)	Q2 2024	FY 2024
Bookings	\$179.0 - \$181.5	\$808.5 - \$817.5
YoY Bookings Growth	30% - 32%	30% - 31%
Revenues	\$175.0 - \$177.5	\$726.5 - \$735.5
YoY Revenue Growth	38% - 40%	37% - 38%
Adjusted EBITDA	\$36.8 - \$39.1	\$167.1 - \$176.5
Adjusted EBITDA margin	21% - 22%	23% - 24%

With regards to the non-GAAP Adjusted EBITDA and Adjusted EBITDA margin outlook provided above, a reconciliation to GAAP net (loss) income, the most directly comparable financial measure presented in accordance with GAAP, has not been provided as the quantification of certain items included in the calculation of GAAP net (loss) income cannot be calculated or predicted at this time without unreasonable efforts. For example, the non-GAAP adjustment for stock-based compensation expenses related to equity awards requires additional inputs such as number of shares granted and market price that are not currently ascertainable, and the non-GAAP adjustment for certain legal, tax and regulatory reserves and expenses depends on the timing and magnitude of these expenses and cannot be accurately forecasted. For the same reasons, we are unable to address the probable significance of the unavailable information, which could have a potentially unpredictable, and potentially significant, impact on our future GAAP financial results.

Video Webcast

Duolingo will host a video webcast to discuss its first quarter and full year results today, May 8, 2024, at 5:30 p.m. ET. This live webcast and related materials will be publicly available and can be accessed at investors.duolingo.com. A replay will be available on the Investor Relations website two hours following completion of the webcast and will remain available for a period of one year.

About Duolingo

Duolingo is the leading mobile learning platform globally. Its flagship app has organically become the world's most popular way to learn languages and the top-grossing app in the Education category on both Google Play and the Apple App Store. With technology at the core of everything it does, Duolingo has consistently invested to provide learners a fun, engaging, and effective learning experience while remaining committed to its mission to develop the best education in the world and make it universally available.

Definitions

Monthly Active Users (MAUs). MAUs are defined as unique users who engage with our Duolingo App or the learning section of our website each month. MAUs are reported for a measurement period by taking the average of the MAUs for each calendar month in that measurement period. The measurement period for MAUs is the three months ended March 31, 2024 and the same period in the prior year where applicable, and the analysis of results is based on those periods. MAUs are a measure of the size of our global active user community on Duolingo.

Daily Active Users (DAUs). DAUs are defined as unique users who engage with our Duolingo App or the learning section of our website each calendar day. DAUs are reported for a measurement period by taking the average of the DAUs for each day in that measurement period. The measurement period for DAUs is the three months ended March 31, 2024 and the same period in the prior year where applicable, and the analysis of results is based on those periods. DAUs are a measure of the consistent engagement of our global user community on Duolingo.

Paid Subscribers. Paid subscribers are defined as users who pay for access to any Duolingo subscription offering and had an active subscription as of the end of the measurement period. Each unique user account is treated as a single paid subscriber regardless of whether such user purchases multiple subscriptions, and the count of paid subscribers does not include users who are currently on a free trial or who are non-paying members of a family plan.

Subscription Bookings and Total Bookings. Subscription bookings represent the amounts we receive from a purchase of any Duolingo subscription offering. Total bookings include subscription bookings, income from advertising networks for advertisements served to our users, purchases of the Duolingo English Test, and in-app purchases of virtual goods. We believe bookings provide an indication of trends in our operating results, including cash flows, that are not necessarily reflected in our revenues because we recognize subscription revenues ratably over the lifetime of a subscription, which is generally from one to twelve months.

Limitation of Key Operating Metrics and Other Data

We manage our business by tracking several operating metrics, including MAUs, DAUs, paid subscribers, and subscription and total bookings. While these metrics are based on what we believe to be reasonable estimates of our user base for the applicable period of measurement, there are inherent challenges in measuring how our platform is used. These metrics are determined by using internal data gathered on an analytics platform that we developed and operate and have not been validated by an independent third party. This platform tracks user account and session activity. If we fail to maintain an effective analytics platform, our metrics calculations may be inaccurate. Because we update the methodologies we employ to create metrics, our operating metrics may not be comparable to those in prior periods. Other companies, including companies in our industry, may calculate these metrics differently.

Non-GAAP Financial Measures

We use certain non-GAAP financial measures to supplement our Unaudited Condensed Consolidated Financial Statements, which are presented in accordance with GAAP. Non-GAAP financial measures include Adjusted EBITDA; Adjusted EBITDA margin; non-GAAP R&D expense, non-GAAP S&M expense and non-GAAP G&A expense (collectively, the “non-GAAP operating expenses”); Free cash flow, and Free cash flow margin. Please refer to the definitions and reconciliation at the end of this letter. We use these non-GAAP financial measures for financial and operational decision-making and as a means to evaluate period-to-period comparisons. By excluding certain items that may not be indicative of our recurring core operating results, we believe that these non-GAAP financial measures provide meaningful supplemental information regarding our performance. Accordingly, we believe these non-GAAP financial measures are useful to investors and others because they allow for additional information with respect to financial measures used by management in its financial and operational decision-making and they may be used by our institutional investors and the analyst community to help them analyze the health of our business. However, there are a number of limitations related to the use of non-GAAP financial measures, and these non-GAAP financial measures should be considered in addition to, not as a substitute for or in isolation from, our financial results prepared in accordance with GAAP. Other companies, including companies in our industry, may calculate these non-GAAP financial measures differently or not at all, which reduces their usefulness as comparative measures.

The effect of currency exchange rates on our business is an important factor in understanding period to period comparisons. We use non-GAAP percentage change in constant currency revenues, which exclude the impact of fluctuations in foreign currency exchange rates, for financial and operational decision-making and as a means to evaluate period-to-period comparisons. We believe this information is useful to investors to facilitate comparisons and better identify trends in our business. The impact of changes in foreign currency may vary significantly from period to period, and such changes generally are outside of the control of our management. We calculate constant currency revenues by using current period foreign currency revenues and translating them to constant currency using prior year comparable period exchange rates for the entire period of related bookings. Constant currency revenue percentage change is calculated by dividing the difference between constant currency revenue and the prior year comparable period revenue by the prior year comparable period revenue.

Forward-Looking Statements

This Shareholder Letter contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. We intend such forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in Section 27A of the Securities Act of 1933, as amended (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). All statements other than statements of historical facts contained in this letter, including without limitation, statements regarding our business model and strategic plans for growth and monetization, including the anticipated release of, and the expected benefits and efficacy of, new products, the effectiveness of our marketing efforts, our market opportunity, and our financial outlook are forward-looking statements. Without limiting the generality of the foregoing, you can identify forward-looking statements because they contain words such as "may," "will," "shall," "should," "expects," "plans," "anticipates," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "potential," "goal," "objective," "seeks," or "continue" or the negative of these words or other similar terms or expressions that concern our expectations, strategy, plans, or intentions. Such forward-looking statements are neither promises nor guarantees, but involve a number of known and unknown risks, uncertainties and assumptions that may cause our actual results, performance or achievements to differ materially from those expressed or implied in the forward-looking statements due to various factors, including, but not limited to: our ability to retain and grow our users and sustain their engagement with our products; competition in the online language learning industry; our limited operating history; our ability to maintain profitability; our ability to manage our growth and operate at such scale; the success of our investments; our reliance on third-party platforms to store and distribute our products and collect revenue; our reliance on third-party hosting and cloud computing providers; our ability to compete for advertisements; acceptance by educational organizations of technology-based education; our ability to access, collect, and use personal data about our users and payers, and to comply with applicable data privacy laws; regulatory and legislative developments on the use of artificial intelligence and machine learning; potential intellectual property-related litigation and proceedings; our ability adequately obtain, protect and maintain our intellectual property rights; and the other important factors more fully detailed under the caption "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2023, as any such factors may be updated from time to time, including without limitation in our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2024 and in our other filings with the SEC, accessible on the SEC's website at www.sec.gov and the Investor Relations section of the Company's website at investors.duolingo.com. All forward-looking statements speak only as of the date of this letter. While we may elect to update such forward-looking statements at some point in the future, we disclaim any obligation to do so, even if subsequent events cause our views to change.

Website Information

We routinely post important information for investors on the Investor Relations section of our website, investors.duolingo.com, and also from time to time may use social media channels, including our Twitter account twitter.com/duolingo and our LinkedIn account [linkedin.com/company/duolingo](https://www.linkedin.com/company/duolingo), as an additional means of disclosing public information to investors, the media, and others interested in us. It is possible that certain information we post on our website and on social media could be deemed to be material information, and we encourage investors, the media, and others interested in us to review the business and financial information we post on our website and on the social media channels identified above, in addition to following our press releases, SEC filings, public conference calls, presentations, and webcasts. The information contained on, or that may be accessed through, our website and our social media channels is not incorporated by reference into, and is not a part of, this document.

DUOLINGO, INC. AND SUBSIDIARIES
UNAUDITED CONDENSED CONSOLIDATED BALANCE SHEETS

(in thousands)	December 31, 2023	March 31, 2024
ASSETS		
Cash and cash equivalents	\$747,610	\$829,713
Accounts receivable	88,975	76,421
Deferred cost of revenues	53,931	60,397
Prepaid expenses and other current assets	7,282	10,747
Noncurrent assets	56,159	91,389
Total assets	\$953,957	\$1,068,667
LIABILITIES AND STOCKHOLDERS' EQUITY		
Deferred revenues	249,192	279,313
Accounts payable	2,447	2,625
Other current liabilities	25,723	21,784
Long-term obligation under operating leases	21,094	53,893
Total liabilities	298,456	357,615
Total stockholders' equity	655,501	711,052
Total liabilities and stockholders' equity	\$953,957	\$1,068,667

DUOLINGO, INC. AND SUBSIDIARIES
UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND
COMPREHENSIVE (LOSS) INCOME

(in thousands)	Three Months Ended March 31,	
	2023	2024
Revenues	\$115,661	\$167,553
Cost of revenues	31,492	45,191
Gross profit	84,169	122,362
Operating expenses:		
Research and development	45,844	50,878
Sales and marketing	16,601	19,931
General and administrative	30,243	35,114
Total operating expenses	92,688	105,923
(Loss) income from operations	(8,519)	16,439
Other income (expense), net	182	(621)
(Loss) income before interest income and income taxes	(8,337)	15,818
Interest income	5,639	10,033
(Loss) income before income taxes	(2,698)	25,851
Benefit from income taxes	(116)	(1,105)
Net (loss) income and comprehensive (loss) income	(\$2,582)	\$26,956

DUOLINGO, INC. AND SUBSIDIARIES
UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)	Three Months Ended March 31,	
	2023	2024
Cash flows from operating activities:		
Net (loss) income	(\$2,582)	\$26,956
Adjustments to reconcile net (loss) income to net cash provided by operating activities:		
Depreciation and amortization	1,762	2,074
Stock-based compensation expense	21,073	24,985
Gain on sale of capitalized software	(100)	—
Changes in assets and liabilities:	9,451	29,499
Net cash provided by operating activities	29,604	83,514
Net cash used for investing activities	(1,312)	(5,021)
Net cash provided by financing activities	4,619	3,610
Net increase in cash, cash equivalents and restricted cash	32,911	82,103
Cash, cash equivalents and restricted cash - Beginning of period	608,180	750,345
Cash, cash equivalents and restricted cash - End of period	\$641,091	\$832,448

appendix

Reconciliation: Adjusted EBITDA and Adjusted EBITDA Margin and GAAP Operating Expenses and Non-GAAP Operating Expenses

Adjusted EBITDA is defined as net (loss) income excluding interest income, income taxes, depreciation and amortization, stock-based compensation expenses related to equity awards, acquisition earn-out costs, and gain on sale of capitalized software. Adjusted EBITDA margin is defined as Adjusted EBITDA as a percentage of revenues. GAAP operating expenses consist of research and development, sales and marketing, and general and administrative expenses. Non-GAAP operating expenses are defined as the respective GAAP operating expenses excluding depreciation and amortization, stock-based compensation expenses related to equity awards, and, as applicable, transaction costs related to an acquisition and acquisition earn-out costs. These non-GAAP financial measures are used by management to evaluate the financial performance of our business and we present these non-GAAP financial measures because we believe that they are helpful in highlighting trends in our operating results and that they are frequently used by analysts, investors and other interested parties to evaluate companies in our industry. The following tables present a reconciliation of our net (loss) income and GAAP operating expenses, the most directly comparable financial measure presented in accordance with GAAP, to Adjusted EBITDA and Adjusted EBITDA margin and non-GAAP operating expenses, respectively.

(in thousands)	Three Months Ended March 31,	
	2023	2024
Net (loss) income	(\$2,582)	\$26,956
Add (deduct):		
Interest income	(5,639)	(10,033)
Benefit from income taxes	(116)	(1,105)
Depreciation and amortization	1,762	2,074
Stock-based compensation expenses related to equity awards (1)	21,673	26,113
Acquisition earn-out costs (2)	113	—
Gain on sale of capitalized software (3)	(100)	—
Adjusted EBITDA	\$15,111	\$44,005
Revenues	\$115,661	\$167,553
Adjusted EBITDA margin	13.1 %	26.3 %

Reconciliation: GAAP to Non-GAAP Operating Expense

(in thousands)	Three Months Ended March 31,	
	2023	2024
Total GAAP Operating Expense	\$92,688	\$105,923
Less: Depreciation and amortization	(1,359)	(1,226)
Less: Stock-based compensation expenses related to equity awards (1)	(21,662)	(26,097)
Less: Other adjustments (2)	(113)	—
Non-GAAP Operating Expense	\$69,554	\$78,600

Reconciliation: GAAP to Non-GAAP R&D Expense

(in thousands)	Three Months Ended March 31,	
	2023	2024
Total GAAP R&D Expense	\$45,844	\$50,878
Less: Depreciation and amortization	(407)	(440)
Less: Stock-based compensation expenses related to equity awards (1)	(9,586)	(13,542)
Non-GAAP R&D Expense	\$35,851	\$36,896

Reconciliation: GAAP to Non-GAAP S&M Expense

(in thousands)	Three Months Ended March 31,	
	2023	2024
Total GAAP S&M Expense	\$16,601	\$19,931
Less: Depreciation and amortization	(398)	(211)
Less: Stock-based compensation expenses related to equity awards (1)	(793)	(1,083)
Non-GAAP S&M Expense	\$15,410	\$18,637

Reconciliation: GAAP to Non-GAAP G&A Expense

(in thousands)	Three Months Ended March 31,	
	2023	2024
Total GAAP G&A Expense	\$30,243	\$35,114
Less: Depreciation and amortization	(554)	(575)
Less: Stock-based compensation expenses related to equity awards (1)	(11,283)	(11,472)
Less: Other adjustments (2)	(113)	—
Non-GAAP G&A Expense	\$18,293	\$23,067

(1) In addition to stock-based compensation expense of \$25.0 million and \$21.1 million for the three months ended March 31, 2024 and 2023, this includes costs incurred related to taxes paid on equity transactions.

(2) Represents costs incurred related to the earn-out payment on an acquisition.

(3) Represents proceeds from a sale of capitalized software.

Reconciliation: Free Cash Flow and Free Cash Flow Margin

Free cash flow represents net cash provided by operating activities, reduced by capitalized software development costs and purchases of property and equipment and increased by taxes paid related to stock-based compensation equity awards as we believe they are not indicative of future liquidity. Free cash flow margin is defined as Free cash flow as a percentage of revenues. We believe that free cash flow is a measure of liquidity that provides useful information to our management, investors and others in understanding and evaluating the strength of our liquidity and future ability to generate cash that can be used for strategic opportunities or investing in our business. Free cash flow has certain limitations in that it does not represent our residual cash flow for discretionary expenditures and our non-discretionary commitments. The following table presents a reconciliation of net cash provided by operating activities, the most directly comparable financial measure calculated in accordance with GAAP, to free cash flow.

(in thousands)	Three Months Ended March 31,	
	2023	2024
Net cash provided by operating activities	\$29,604	\$83,514
Less: Capitalized software development costs and purchases of intangible assets	(731)	(3,607)
Less: Purchases of property and equipment	(681)	(1,414)
Plus: Taxes paid related to stock-based compensation equity awards	600	1,128
Free cash flow	\$28,792	\$79,621
Revenues	\$115,661	\$167,553
Free cash flow margin	24.9 %	47.5 %

Contacts

Investor Relations:

Deborah Belevan, VP of Investor Relations

ir@duolingo.com

Press:

Sam Dalsimer, Global Head of Communications

press@duolingo.com

