

**STRICTLY
CONFIDENTIAL**

memrise

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Submitted to:

**PrincetonEN
Competition**

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Memrise business plan - PrincetonEN Competition 2009

Greg Detre
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Executive Summary

Memrise is an **online learning platform** that helps users **memorize words, facts and complex associations faster** than by any other means. Memrise was founded by Greg Detre, a Princeton PhD candidate studying human memory, and Ed Cooke, a Grandmaster of Memory and acclaimed lecturer on memory techniques.

Memrise firstly generates revenue through **consumer subscriptions** to its **SAT words and foreign vocabulary memorization** websites:

- The SAT and foreign vocabulary markets are **under-served** \$50m niches within the larger test prep and language learning markets where we can provide dramatic gains on problems people desperately care about.
- We aim to improve vocabulary memorization performance by an order of magnitude relative to staring at a textbook, and by a factor of three relative to Rosetta Stone (the market leader in language learning software).
- We will offer **restricted versions of our vocabulary products for free** to demonstrate the efficacy of our approach, charging a **\$10-\$20/month subscription** for pro accounts.
- We are aiming to capture 2% of the SAT and foreign vocabulary markets by the end of 2012, amounting to \$2.1m dollars of revenue for that year.

In the longer term, the **Memrise Marketplace** will provide a second and potentially much larger source of revenue.

- Memrise will give away its Memrise Toolkit, **empowering anyone to create deeply memorable content** on any subject of their choosing
- Users can **give away or sell the mems they create** to each other effortlessly (just as apps are sold in the iPhone App Store), with **Memrise taking 30% commission** on each transaction.
- By 2013, we anticipate that our **revenue from the Memrise Marketplace will exceed our vocabulary products**, as users create and sell mems for **every sector of the \$50b e-learning market**.

Memrise is seeking angel investment of \$200k to substantially boost early growth, and expedite development of the Memrise Marketplace, the most **massively scalable** part of our business model. We are also seeking mentors with experience in online software, investment strategy and education to join our **Board of Advisors**.

Memrise's aim is to become the default destination for people's memorization needs, where users will be able to create, shop for and learn from an encyclopedic range of memorable materials, each of which will rest on our proprietary mnemonic technology to provide extraordinarily effective and engaging learning experiences.

Management team

Greg Detre graduated with First Class Honours from Oxford University, studied as a Frank Knox Fellow at Harvard, and is finishing his PhD at Princeton University on the computational neuroscience of human memory. After high school, he joined a start-up design agency in London as the project manager for a lavish millennial book, assembling and managing a team of thirty designers, writers, photographers and researchers. Detre has worked as a popular teaching assistant in the Princeton psychology and linguistics departments, is an accomplished public speaker, actor and debater, and has supervised numerous research assistants, undergraduate researchers and staff programmers while at Princeton. He has 15 years of programming experience in a half-dozen languages, developed and maintains two major open source projects, and coordinated Princeton's prize-winning entries in the DARPA-sponsored EBC competition to read minds with fMRI.

With his experience coordinating highly complex projects involving numerous people, Greg Detre will be the CEO of Memrise, and will also lead the design and development of our technology platform.

Ed Cooke graduated with First Class Honours from Oxford University and has a Masters in Cognitive Science from Paris University. He is a Grandmaster of Memory¹, consistently ranking in the top ten at the World Memory Championships. He is the author of *Remember, Remember* (Penguin, 2008), a columnist for the London Times newspaper, and a regular on UK national television and radio. As Director of Education for Inspire-Ed, a leading UK educational consultancy, Cooke lectured to thousands of students and teachers on learning and memory techniques in the UK and US to critical acclaim, and managed and tracked development for a large team of speakers.

Cooke will run Memrise Creative and Business Development, overseeing the design of our mem-creation tools as well as content production and the recruitment, teaching, management of and quality control for our growing Mem creation team. He will spearhead the promotion of Memrise through his media contacts, his regular lectures, his teacher training workshops, and the strong motivational effect he has on all of his pupils.

The Problem

The world is gradually developing into a knowledge-based economy where success, for people and nations alike, depends ever more heavily upon education. Although there is much more to education than just remembering, memory is critical: while one can have memory without understanding, there can be no understanding without memory.

Despite the crucial role that memory plays in every kind of learning, people remain surprisingly bad at it. To take just one example, after five years and several hundred hours of studying French at school, the average sixteen year old British student has learned fewer than a thousand French words. That's a learning rate of less than five words per hour (Milton, 2006).

Such inefficiency in the learning of information curtails achievement, ambition, curiosity and enjoyment, and is a colossal waste of human potential - yet the causes of poor memorization are well understood both scientifically and in terms of memory techniques. There are four principle reasons why people learn far more slowly than they could. People...

- ignore their brain's strengths (visual, spatial, and motor memory)
- fail to relate what they are learning to what they already know
- repeat material insufficiently and inefficiently
- just passively read material, rather than actively practicing recalling it

1. http://www.worldmemorychampionships.com/grand_master_of_memory.asp

At Memrise, we have a rich understanding of these causes of learning inefficiency, and, we believe, a solution that tackles every one of these critical causes of sub-optimal memorization.

The Solution

In stark contrast to the average person's experiences of memorization, a narrow elite of people in the know has for several thousand years made spectacular use of a tradition of memory techniques that began in Ancient Greece. These techniques allowed Roman generals to learn the names of every soldier in their armies; they enabled orators to speak for six hours straight under intense heckling; monks, meanwhile, used them to memorize vast chunks of literature verbatim.

Memrise's learning tools integrate insights from the ancient arts of memory with the very latest developments from cognitive science with one aim in mind: helping people **remember as efficiently, lastingly and enjoyably as possible**.

People will be able to head to the Memrise website for all their memory needs. Whether a person wishes to expand her English vocabulary before sitting an SAT or to learn a few thousand words in a foreign language, Memrise will be the place for her to go. Eventually we hope that people will make use of Memrise for their medical degrees, while others will use it to remember the sequence of ideas and facts they want to communicate in a work-presentation; still others, meanwhile, may simply wish to be able to remember the things they read in the paper each morning.

We will proceed in two main phases (described in detail below):

- **Vocabulary learning tool**
 - For learning words in foreign languages, and for memorizing SAT vocabulary.
 - Subscription pricing model, with restricted access for free.
- **Memrise Marketplace - creating an eBay for knowledge**
 - Users can create their own mems ('mnemonic materials') using the freely available Memrise Toolkit and make them available on the Memrise Marketplace.
 - Mem creators set the subscription price for their sets of mems, and Memrise takes 30% in return for providing the learning, delivery and payment infrastructure.

Memrise Language and Memrise SAT - vocabulary learning

Drawing on twenty years of combined expertise in the cognitive neuroscience of human memory and the practical art of hyper-effective competitive memorization, Memrise's learning methodology **speeds up memorization by an order of magnitude**. We identify three of its central strands here:²

- **vivid mnemonics** make a dramatic difference when forming associations between unfamiliar foreign words and their meanings (**3x boost** in learning rate)
- **remind users on a scientifically-optimal schedule** to maximize retention (**2x boost** in retention rate)
- active recall through testing (rather than just passive viewing) cements recollection (**2x boost** in learning rate)

2. Our confidential white paper detailing the full approach is available upon request.

The screenshots show the Memrise mobile application interface. The first screen displays a mnemonic for the French word 'affiche' (a poster). It includes a note about its pronunciation ('AFF-EESH'), a memory tip involving a pink fish, and a note that it's a feminine noun. The second screen shows the word 'affiche' again, this time with its definition as a feminine noun. The third screen shows a summary of the user's learning progress, including a note about being due to see it again at 6:50 p.m. GMT on Sunday the 25th March 2010.

Individually, each of our three mnemonic principles makes an important difference to the speed at which a person learns. Together, they are dynamite - based on early trials, we aim to **boost users' learning rate to more than 60 words per hour**. We estimate this to be an order of magnitude's improvement over staring at a textbook, and a factor of three improvement compared to using the Rosetta Stone.

User generated content for scalability

Although our early content will be produced by Memrise and our team of volunteers, we fully expect internally-produced content to be rapidly outstripped by a wide variety of **high quality user-generated content**:

- we have designed a patentable algorithm for **computer-assisted generation of mnemonics** that makes the process easy, fast and fun
- we will inject brief **videos and tips** from Grandmaster of Memory Ed Cooke instructing our users on the art of extraordinarily effective memorization to teach and encourage them
- **creating good mems is in itself** a very effective way to **improve one's own memory**
- **users will gain Memrise credit** (discounting the subscription price) for adding mems that prove useful to others, providing **motivation, recognition and reward**
- statistical filtering mechanisms that automatically monitor the popularity and effectiveness of every mem, pushing the **best mems to the top**.

Encouraging and facilitating user-generated content is the key to **scaling** to a large selection of vocabulary in a variety of languages, at very low expense. Although we will target English speakers learning popular languages such as Spanish and Mandarin in the early stages, we will later be able to internationalize our software for non-English speakers in any language, **aggressively expanding to cover almost any pairwise combination of languages**, where **almost no competing software exists**.

Freemium model for access

Anyone can immediately begin learning words with Memrise completely for free. A **free account** allows users to benefit from phenomenally rapid learning and long-term retention **for up to 100 words**. In order to continue learning more words, non-paying users must discard words from their account to make room - however, by sacrificing the optimally scheduled reminders for these words, they will

slowly fade from memory. This provides a **clear incentive to upgrade** to:

- the **\$10/month pro subscription** - provides space for 1000 foreign words.
- the **\$20/month premium subscription** - provides space for 10,000 foreign words.

We plan to charge **higher rates for SAT words** (\$20 and \$40/month), since their value to SAT students is higher but short-lived.

We may also offer an alternative pricing model, where users can purchase permanent access to a given language for a fixed price. This subscription/purchase pairing mirrors the Rosetta Stone's online pricing model.

iPhone and mobile apps

Next time you spend a few impatient minutes standing in line at the supermarket or waiting for a friend to arrive, imagine how many words in Mandarin or Spanish you could have learned at 60 words/hour. Learning in short, frequent bursts like this is ideal for long-term retention.

We plan to develop an **iPhone app for Memrise users**, and provide an API so that other mobile developers can build apps on top of the Memrise infrastructure, transforming moments of dead-time into engaging and fulfilling memory workouts.

Memrise Marketplace - 'an eBay for knowledge'

By releasing our **Memrise Toolkit for free**, we want to **empower our users to create profoundly memorable content**. We want everyone to be able to create 'mems' (mnemonic materials) for any subject of their choosing, and to benefit from Memrise's proprietary mnemonic technology to create extraordinarily effective and engaging learning experiences.

The **Memrise Marketplace links these mem creators with mem consumers**. Anyone who has created their own mems can share or sell subscriptions to them on the Marketplace. The iPhone App Store has catalyzed a monumental sleeping giant of productivity, spurring the development of 35,000 applications and 1 billion downloads in a single year. We strongly believe that **a far larger population would jump at the chance to produce, share and sell their knowledge as mems**, optimized for rapid learning and retention.

The **Memrise Marketplace will become a kind of eBay for knowledge: a default web destination for anyone who wishes to learn and remember information of any kind**. Whether the material be driving regulations, a law exam, sales figures, a book or an article, users will be able to depend on the Memrise Marketplace for relevant, compelling, extraordinarily effective learning experiences, which will integrate seamlessly with our supporting mnemonic infrastructure.

We will extend the vocabulary subscription model to the Marketplace:

- **Vendors will set the monthly subscription price** (above some minimum allowed price)
- Memrise will take **30% of all subscription revenue** (just as Apple does for iPhone apps)
- Mems offered for free on the Marketplace will take up room, just as vocabulary words do, requiring users to upgrade to an account with more space - this provides **revenue even on free marketplace exchanges**.

Market Potential

The number of people who need to memorize information is almost limitless; whether you're a student, salesman, Cisco engineer or sommelier, you're a member of the knowledge economy, and learning and remembering are critical to your success. Although discretionary consumer spending has dropped, if anything the global recession has emphasized the importance of standardized test performance and foreign language skills, driving **increased spending on self-study materials**.

Market potential - SAT vocabulary test prep

A **million and a half high school students** take the SAT exam every year, and it provides one of the principle metrics used to determine college admission. 15% of SAT takers are **willing to spend heavily** (more than \$400) on test prep classes, software and material, with an even larger proportion spending in the \$200 range. Of this, the **online SAT test prep market** is around \$50m, and growing fast.³ Improving their **vocabulary** is one of the easiest and most direct ways that students can drive up their score in the Critical Reading third of the exam (and also improve their score in the Writing section).

Notably, the market for our 'SAT words' is actually much larger than just SAT students, encapsulating SAT, GRE, ACT and other standardized test takers, as well as self-studiers, scrabble enthusiasts and so on. We anticipate growing our revenue in this area from around \$50,000 dollars in 2010 to almost half a million in 2012.

Market potential - Language learning

Globalization, immigration and travel are driving **rapid growth in the \$50-80b worldwide language learning market**, with the online market for English speakers occupying around 1% of this.⁴ Foreign language enrollments in US high schools grew by 40% from 1990-2000 - this is the same demographic that we are targeting with our SAT words software and Memrise Masterclasses.

Currently, we estimate that the **online foreign language vocabulary software market in the US is worth at least \$50m per year**, perhaps 5-10% of the rapidly expanding total online foreign language software market. With Rosetta Stone and other primarily CD-based **competitors currently very weakly positioned on the web**, we are confident that our online and mobile products will be well-positioned for the future. We anticipate generating around \$150,000 dollars of subscription revenue for foreign language vocabulary products in 2010, growing to more than ten times that amount in 2012.

The appeal of vocabulary learning products, meanwhile, within the broader language-learning market is growing. While language learning usually focuses on syntax, modern psycholinguistic theories strongly emphasize the value of a **vocabulary-first approach**⁵. Indeed, pure vocabulary size has been shown to be a strong predictor of **exam success**.⁶

In the longer term, our user-generated content model will enable us to grow rapidly and cost-effectively into the enormous but under-served non-English speaking markets.

Vocabulary learning is a **specific, important niche** in the language learning market, and Memrise is **superbly positioned** to enter and eventually dominate it. We have isolated the following key segments:

3. <http://www.consumerwebwatch.org/dynamic/families-reports-satprep.cfm>

4. <http://answers.google.com/answers/threadview?id=27926>

5. <http://www.byki.com/whitepapers/informed-by-research.shtml>

6. <http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=446825>

- people who are already taking a class to learn syntax and pronunciation
- people who just want to rapidly learn a few hundred words for basic communication
- people who already know the language and want to improve their vocabulary
- people who want to make sure that their existing vocabulary doesn't atrophy
- people who already have a copy of other language learning software and want to benefit from Memrise's superior vocab memorization

Market potential - Memrise Marketplace

The Memrise Marketplace is intended eventually to become a storehouse of memorizable knowledge in any domain where memorization is important. Over the next 5-10 years, we are aiming to become a significant player in the \$50b worldwide market for e-learning. By 2012, we aim for transactions on the memrise market place to top \$1.6 million dollars, with our share amounting to about \$500,000.

We plan to seed the Marketplace by focusing on a handful of **selected domains** where we expect that people will be **most likely to create, share and sell mems on the Memrise Marketplace**:

- **Advanced Placement** students (especially subjects such as chemistry, biology, history and geography). Nearly **1.4 million students** worldwide took 2.5m AP exams in 2007 - 300,000 in U.S. history alone. There are 37 different AP exams, a number of which are very fact heavy, and all of which affect college admission.
- **Ivy League undergraduates**: these 100,000 students pay around \$40k per year in tuition fees⁷, are highly motivated to learn and to perform well, and could be expected to produce excellent mems for sale in the Marketplace.
- **Pre-med and medical students**: Roughly 40,000 pre-med students a year, with an additional **20,000 in medical school**, cover an unparalleled number of definitions, associations, lists, procedures and other medical facts and concepts. Medical students are **highly motivated** to boost the effectiveness of their studying, would benefit greatly from improved retention, and routinely spend over \$1000 on test prep software.

Competitor analysis

The following chart shows how Memrise's feature offerings differ from existing language learning sites, flashcards, and other e-learning ventures.

	MEMRISE	Paper flashcards	Rosetta Stone	Pimsleur audiobooks	Quia online flashcards
Vivid mnemonics	Yes	No	No	No	No
Spaced reminding schedule	Yes	No	Some	Yes	No
Active recall through testing	Yes	Yes	Yes	No	Yes

7. http://www.toeflaccess.com/articles/ETS/us/study/where_study/schools_reg_type/hist_schools.html

Strong scientific basis	Yes	No	Some	Yes	No
Words per hour	60	10	20	30	10
PR/marketing potential	Strong	Weak	Strong	Strong	Weak
Fun	Yes	No	Yes	Yes	Yes
Focus on vocab/ memorization	Yes	Yes	No	No	Yes
User-contributed content	Yes	Yes	No	No	Yes
Adaptive personalization	Yes	No	No	No	No
Free demo version	Yes	Yes	No	No	Yes
Price	\$10+/ month	Free	\$250+ or \$40/ month	\$170	\$50/year

More generally, Memrise can differentiate itself in the following ways:

- Most importantly, by our **effectiveness**. We will run randomized, controlled **experiments to demonstrate this conclusively**.
- Our **pedigree as experts** in the art and science of memory provides a distinctive and persuasive narrative that feeds directly into our brand, and lends itself to generating publicity.
- While the focus of most existing language learning, test prep, tutoring and textbook companies is on the fostering of understanding, Memrise's aim is to improve memorization. Potentially then, this present an opportunity to **partner with such companies** to produce a combined product, or for us to **license our technology** to them for memorization-heavy aspects of their offerings.
- We're going to entertain and crucially **educate** our users with podcast and written information on effective memorization, emphasizing the scientific and historical basis of our key principles. This positioning is critical, since it places the burden on our competitors to trail us in offering similar features, or risk losing their appeal.
- Our **expertise and close relations with the experts in both the scientific and competitive memorization fields** give us a tremendous edge when designing hyper-effective memorization software tools. We are confident that **we can unveil a steady flow of new features and applications** over the next five years that will consistently keep us at least one step ahead of potential imitators and competitors.
- Our **user generated content model** distinguishes us and massively reduces the costs of expansion.

Quia, Quizlet and the plethora of free flashcard sites with large databases of flashcards provide a clear demonstration that **people are eager to share their study materials**. The Marketplace actively encourages this free and open dissemination of knowledge too. However, by **turning every Memrise user into a potential Marketplace seller**, we incentivize them to promote Memrise to make money for themselves. **Competition between mem creators should also drive improvement in the quality of their contributions**, which is a serious problem for the free flashcard databases.

Marketing Strategy

Memrise is in a special position to build **very considerable brand awareness** and a **large and loyal userbase** in the following ways:

- Demonstrate the effectiveness of our products through our freemium model.
- Ed Cooke has a superb record at generating press coverage (through interviews on national television, national and local radio, national newspapers, magazines and online). The combination of Ed's charisma, the strong scientific grounding behind the Memrise approach, and the feeling of unprecedentedly rapid progress make for compelling PR.
- Adwords will exploit the founders' unique pedigree, e.g. "Learn Italian inhumanly fast. Designed by a Grandmaster of Memory".
- Ed Cooke will write the best guide for memory techniques on the internet, made freely available at Memrise.com to boost traffic and search engine ranking, and educate users on why Memrise works so much more effectively than other approaches.
- Ed Cooke will run Memrise Masterclasses in the US for pupils as well as teachers on applying memory techniques to study. This will provide an early, stable revenue stream for Memrise, and a potential platform for marketing to schools. We will target key demographics, such as medical schools and Ivy League students around the US, to seed growth of the Marketplace.
- We are already in discussions with one test prep company who want to license the Memrise technology for vocabulary learning for their students.
- Sale of site-wide licenses to US universities, starting with a free beta in Princeton, then sales to other Ivy League schools, and eventually the wider college market.
- Ed Cooke taught Josh Foer (a journalist) to become the US Memory Champion in under a year. In 2010, Josh Foer's book about the experience (featuring Ed Cooke prominently) will be published internationally by Penguin, and is projected to sell 200,000 copies. Ed Cooke will be heavily involved in the widespread publicity surrounding its launch to heavily promote Memrise, through which we expect to reach an audience of 1m television viewers and radio listeners.
- Run regular, publicized competitions to set records for the most words learned within a short space of time, or for the mem author whose mems work most effectively.
- Early bird specials, mentoring 'buddy' system, popular trivia mem sets, strategic blog listings coinciding with exams, 'feat of memory' publicity stunts.

Implementation and timecourse

Memrise will implement two interrelated phases of development:

In phase one, which is already underway, we are working with a skilled team of undergraduate programmers and a gifted graphic designer to develop a prototype of our vocabulary-learning tool, with a beta scheduled for release in Q3 2009. Gradually expanding access to this tool through select invitations through Q3 and Q4 2009, we will experiment with and hone the design of our software, the architecture of our database and the dynamics and look of our interface. In Q4 2009 we will openly release the first versions of our foreign and SAT vocab-learning software to paying subscribers.

Users will be able to learn up to 100 words in their desired language for free. This will likely take about an hour, and that experience of speedy, enjoyable memorisation will play an important role in persuading them to subscribe to the premium service. By Q2 2010, coinciding with our first burst of publicity (one that will be magnified by the release of Josh Foer's book- see the Marketing Strategy

section) we expect these products to be the **pre-eminent** services available for those wishing to **extend their English or foreign vocabulary**. From Q3 2010, we will **continuously expand the range of languages** we offer, along with the scope of coverage of each language.

In phase two, beginning in **Q3 2010**, we will work with an expanded team of **full-time programmers to develop the Memrise Toolkit**, and to **design and test the Memrise Marketplace**. Here we will see our most sophisticated mnemonic thinking and software emerge, and, after a short time, the product that will decisively differentiate us from all competitors. We aim to have a **beta-version of the Toolkit available to a select team of mem-creators-** enthusiasts and volunteers, from **Q1 2011**.

In **Q2 2011**, we will open the **Marketplace in beta form**, stocked with a high-quality selection of materials authored by Memrise and our volunteer team of mem-creators. Once it is ready, we will **publicly release the Memrise Toolkit to all users (Q4 2011)**. Anybody will now be able to create effective mems for any subject of their choosing; some will keep them for private use; others will share them with friends; a good proportion will meanwhile **use the Memrise Marketplace to sell their materials for personal profit, while Memrise takes a 30% cut** for supporting the whole affair. Growing the marketplace throughout 2011, we expect revenue from it to exceed our earnings from our popular vocabulary-learning products as soon as **Q1 2013**.

Investment opportunity

Angel investors have the opportunity to work with an **incredibly bright, determined and resourceful team** in a virtually boundless market that is growing rapidly; knowledge is a bubble that will never burst.

Memrise is seeking angel investment of \$200k to substantially boost early growth, and expedite development of the **Memrise Marketplace**, the most **massively scalable** part of our business model.

We are also seeking mentors with **experience in online software, investment strategy and education** to join our **Board of Advisors**.

Concluding vision

Memrise's aim is to become the default destination for people's memorization needs, where users will be able to create, shop for and learn from an encyclopedic range of learning resources, each of which will rest on our proprietary mnemonic technology to provide extraordinarily effective and engaging learning experiences. We want to give the world a better memory.

The full financial model is available as an Excel file at: <http://gregdetre.co.uk/memrise>

	Q2 2009	Q3 2009	Q4 2009	2010	2011	2012
Revenue						
SAT (signups)	93	97	129	1,109	3,481	10,926
SAT (active users)	108	202	281	326	1,022	3,207
SAT (subscription revenue)	\$2,169	\$4,041	\$5,628	\$48,796	\$153,185	\$480,760
Language (new sales)	37	81	312	5,529	20,426	44,077
Language (active users)	28	139	347	2,449	8,897	19,033
Language (subscription revenue)	\$284	\$1,395	\$3,466	\$151,717	\$684,555	\$1,674,588
Marketplace (total new users)	0	0	0	17,294	103,581	495,221
Marketplace (active users)	0	0	0	10,378	54,080	255,835
Marketplace (total value of sales)	\$0	\$0	\$0	\$44,961	\$343,096	\$1,669,089
Marketplace (total commission)	\$0	\$0	\$0	\$13,488	\$102,929	\$500,727
Costs						
Server & software costs	\$1,177	\$218	\$276	\$14,914	\$94,842	\$384,117
Sales & marketing	\$925	\$1,688	\$2,915	\$56,353	\$153,966	\$218,019
Technical staff salaries	\$5,000	\$4,000	\$0	\$167,000	\$312,000	\$348,000
Overheads	\$5,349	\$409	\$482	\$5,480	\$56,013	\$126,322
Cost contingency	\$759	\$1,193	\$368	\$23,085	\$65,015	\$112,520
Total active users	68	139	255	13,153	64,000	278,075
Cash from financing	\$67,000	\$0	\$0	\$0	\$0	\$0
Total revenue	\$2,453	\$5,436	\$9,094	\$214,001	\$940,669	\$2,656,075
Total costs	\$13,210	\$7,508	\$4,041	\$266,833	\$681,837	\$1,188,978
Operating profit (= operating cash flow)	-\$10,757	-\$2,073	\$5,054	-\$52,831	\$258,832	\$1,467,098
Cash at end of period	\$56,243	\$54,171	\$59,224	\$6,393	\$265,225	\$1,732,322

Assumptions (monthly)

SAT (subscription per month)	\$20	Paid per month by users of paid version
SAT (conversion rate)	4%	Proportion of visitors who sign up for paid version
SAT (churn rate)	40%	Proportion of paying users who leave each month
SAT (growth factor)	1.1	Compound growth coefficient
Lang (subscription per month)	\$10	Paid per month by users of paid version
Lang (churn rate)	20%	Proportion of paying users who leave each month
Lang (spike conversion rate)	1%	Proportion of traffic spike who sign up for paid version
Lang (word of mouth factor)	1.25	Coefficient by which traffic grows each month (PageRank, word spreading through schools, bloggers)
Mktp (sales value per user per month)	1	On average, how much each Marketplace user spends
Mktp (our commission per transaction)	30%	Memrise's cut for each Marketplace transaction
Mktp (our average revenue per user)	\$0.30	Sales value per user * cut per transaction
Server costs per active user	\$0.20	Using a cloud service to rent server time, storage etc.
Legal/accounting costs as propn. of rev.	2%	
Marketing costs as propn. of rev.	4%	
Unexpected costs as propn. of rev.	10%	

4-year forecast of monthly revenues and costs

