

The birth of Mobile learning

Mikael Flovén introduced the idea of Mobile learning, m-learning and “Mobilt lärande” (Swedish for Mobile learning) in the mid 90s when Mikael Flovén was working at the Swedish telecom company Telia AB, then the recognized world leader of mobile telephony and services as well as creating and launching internet services. In this environment with emerging services within individualization, personalization and the generally accepted vision within the telecom business of convergence of the mobile phone, the computer and other gadgets, Mikael Flovén had the idea of keeping language knowledge up to date and learning new languages as well as other knowledge areas using the mobile phone and to always be able to use a “personal trainer” i.e. individualized learning via the mobile phone. Mikael Flovén called it Mobile learning in English and “Mobilt lärande” in Swedish. Later the abbreviation m-learning was stated to differentiate from e-learning which in the late 90s had less positive reputation than in the beginning of e-learning.

In 1999 Mikael Flovén started the company Use Your Cell AB offering “...services for continuous learning based on mobile and fixed IT...e.g. language services.” and began gathering people in order to start recruiting, financing and develop the service with first focus on languages.

When Mikael Flovén started Use Your Cell in 1999 he was COO for BuyBridge AB, a startup which delivered ASP based customer service via internet, email and telephone, similar to Salesforce’s Service cloud today. BuyBridge started 1999 the same year as Salesforce and was the hottest internet company in Sweden at the time and got the second round of financing from 3i in 2000. Then according to plan Mikael Flovén left BuyBridge after one year in the position to be able to put all his energy into Use Your Cell.

With the gathered people and a business plan Use Your Cell got seed capital from Swedish business angels and filed a patent in May 2000 for “System and method for individually adapted training” and developed the Mobile learning service in a first beta version.

Mobile learning was totally new on the market to every organization and individual that was contacted from the start of Use Your Cell. With Mobile learning Use Your Cell was creating a new way of learning, a completely new knowledge field and met enormous skepticism, especially in the existing market of learning whether it was traditional schools, e-learning companies, educators, University researchers in pedagogic, University researchers in languages, publishers of school books, ordinary people, media and every organization or individual that first got to know about Mobile learning.

In the year 2000 Use Your Cell stirred up the market for learning by introducing Mobile learning to each and everyone in Sweden and the rest of the world. It was skepticism about the possibility to use the mobile phone as such as a tool to learn, as well as about the danger for radiation from the mobile phone and the problem the mobile phone would cause the teacher and school.

Use Your Cell started by using SMS as the means for the user to communicate from the mobile phone to the centralized personal trainer. Mikael Flovén’s vision was the mobile phone merged with computer, camera, speech recognition, character interpreter with games based on Use Your Cell’s

content and technology. SMS was understood to be the first technology to be replaced along the technology development on the telecom transmission and device market.

Mikael Flovén knew what would come and had gathered smart people with long experience and knowledge from telecom, Internet services, database technology, language, computer game development and marketing.

With this skilled team Use Your Cell began in the year 2000 business discussions with a significant number of organizations and people in order to find technology partners, market channels, content providers and Universities to create the new market for Mobile learning.

NDA's were signed with all organizations and individuals to protect the new business idea about Mobile learning/m-learning/"Mobilt lärande" and some were well known organizations like the examples below with the date for each signed Non-Disclosure Agreement:

Telecom operators

Sense Communications - 2000
Europolitan - 2000
Sonera - 2000
Orange - 2000
Sonera Zed - 2000
Speedy Tomato - 2000
Tele2/Comviq - 2001
Telia - 2001
O2 Ltd - 2002

Mobile phone and network providers

Nokia Corporation - 2000
Motorola Inc - 2000
Ericsson Radio Systems - 2000
Siemens Mobile Solutions - 2001

Content providers

Alta Vista Nordic - 2000
Berlitz - 2000
Langenscheidt - 2000
The Q Group - 2000
Natur och Kultur - 2000
Norstedts Ordbok - 2000
Liber - 2000
Bonnier Utbildning - 2000
Wolters Klüwer - 2001
Cornelssen - 2001

Gaming developers

Game Design Sweden - 2000

Aspiro - 2000

Schools and Universities

STS Student Travel Schools - 2000

Gävle University - 2000

Stockholm University -2001

Interactive Institute - 2001

Malmö University – 2002

Technology

HP Sweden - 2000

Oracle Svenska - 2000

BEA Systems - 2000

IBM - 2000

Anoto - 2000

Microsoft - 2000

Pipebeach - 2001

Despite the skepticism, Use Your Cell managed to explain the vision of Mobile learning and find curious participants and supporters. The volumes of meetings were huge and from year 2000 several led to co-operation. HP, Oracle, BEA and IBM supported Use Your Cell with technology; the four largest content providers covering 95% of the Swedish school market supported with content; the telecom operators Sense and Tele2/Comviq supported with SMS traffic; the mobile phone and network providers Nokia, Motorola and Siemens supported with mobile phones; Gävle University started to cooperate with researchers within pedagogic and mobile technology; Municipalities and schools volunteered to use the services. Use Your Cell managed to gather all players needed to launch Mobile learning.

In spring 2001 Use Your Cell AB launched the world's first Mobile learning service. Based on SMS, together with three schools in three municipalities in Sweden (Stockholm, Täby and Gävle) with 100 students aged 14, Nokia and Motorola supported with mobile phones, Sense Communications sponsored the SMS traffic and Natur och Kultur with content which was English as foreign language.

After the project's end Use Your Cell and Mikael Flovén conducted a survey with all students, teachers and parents who had been participating. The result was extremely positive to use Mobile learning and very good results in improved learning for both skilled and poor students. The feedback also supported the business plan on how the Mobile learning service should be developed to support the students even more.

The only negative reactions came from the community outside school and those who didn't participate in the project, mostly these skeptics aired their opinion and concern in media. There were parents, teachers, teacher's union leaders, politicians and others who were against Mobile learning. Some worried about more problems for the teacher to keep the students focused during class, although the service was used as a complement to and mostly outside class. Others were afraid

about the effect of mobile radiation. Pedagogues and teachers meant Mobile learning, i.e. a computer based personal trainer used via mobile phone didn't work or couldn't prove significant increased learning among students. Of course they didn't listen to the feedback from students, teachers and parents, which on the contrary showed significant increased learning.

The result from the world's first Mobile learning service supported Use Your Cell's business idea of adding other subjects than language to the content list for Mobile learning. It also led to the idea of handling most of student follow up and interaction between school, the teachers, the students and parents via the mobile phone. The reason for the latter was that students surprisingly didn't use email at all or very limited during the project. Instead they wanted to use the mobile phone for every kind of communication. Email was for the old generation and mobile for young people and students who were communicating in a different way.

The students also asked for pictures and voice which was expected. This strengthened the business idea of cooperating with the gaming industry in order to let them develop games based on the information from the personal trainer, to create user experience by making learning games for the mobile phone, as well as using voice for learning pronunciation, pictures and films to give more learning possibilities. This was the obvious coming steps as the technology allowed and at the time WAP and GPRS was part of the technology for Use Your Cell as available options. It was not as good as the future would bring but showed the coming possibilities for Mobile learning. The obstacles in 2001 was the user penetration and number of mobile phones with WAP and GPRS. Therefore the only possible platform to launch Mobile learning via was SMS which all mobile phones could use.

In late 2001 Use Your Cell AB launched the world's first commercial service for Mobile learning, Drivers license theory to the consumer market together with Tele2/Comviq, the second largest mobile telecom operator in Sweden, also directly active in several other countries as well as via the subsidiary Millicom, and the content provider K rkortet.com. It was the first commercial Mobile learning service. It was based on SMS and the first step for Use Your Cell using other content than languages.

The successes with Mobile learning for students and Mobile learning for Drivers license theory fueled the activities towards the business segment to offer HR, Sales and Marketing departments a new tool to train their staff, as well as possibly train clients within niche areas.

With the very successful project results, the dialogue continued with worldwide organizations like telecom operators and content providers outside Sweden in order to implement the expansion plans.

The students feedback proved that school politicians had to be enlightened and Use Your Cell invited the Swedish government to discuss Mobile learning and the possibilities for education, but the Swedish minister of education responded that it was not interesting.

Use Your Cell was the world's first Mobile learning organization and met resistance from teachers, pedagogues and teachers unions, but that was not a big problem since the users and their parents loved the service, despite it was very rudimentary a beta version in 2001. Use Your Cell was creating and building a totally new market for learning with Mobile learning. The problems came from elsewhere.

It was cost per SMS and financing which kept the management of Use Your Cell busy and proved to be disastrous in the long run, taking focus away from development and creating bad atmosphere and innovation climate within Use Your Cell.

The cost of use for SMS was a huge problem in 2001 and the years to come, with a price of 0,75 to 1,50 SEK (10 to 20 cents in 2001) per SMS, it was a show stopper while waiting for new techniques. Mikael Flovén had several meetings with the big telecom operators about how to change the situation without destroying the operators' existing SMS business. Having worked at Telia, Mikael Flovén knew the production cost for a SMS was insignificant and suggested that the telecom operators would bundle packages of hundreds and thousands of SMS to a fixed price per month. Our price studies had shown that it would be possible to charge parents up to 200 SEK (25\$) per month for the Mobile learning service. By bundling and creating Mobile learning services it would not harm the existing SMS business, on the contrary create more business for the telecom operators and since Use Your Cell expected the prices to fall and eventually dramatically as the Japanese market had shown for Imode. But all old telecom operators said no and the virtual operators could not make such great volume discounts to make affordable packages. A few years later the operators introduced packages of several hundreds and even thousands of SMS for as little as 29 SEK (3.50\$) and now even for free.

The dotcom crash in year 2000 and the following stock market crash to 2002, lead to a hostile environment for financing companies like Use Your Cell and financing any company at all. From startups being financed without a customer base, no income or even shown benefit for users in the late 90s, the capital market was literally closed 2001 to 2004. The possibility for Use Your Cell to get investors to finance and lift the technology from a beta version to follow the business idea's step wise development vanished. Meetings with several investment firms from Sweden, Europe and Japan took a lot of time and efforts but lead nowhere.

In 2001 Use Your Cell AB applied with help from experienced EU fund raisers, for financing from EU's strategic funds, including Mobile technology and language which were two different focus areas at the time with the language year in EU 2001, for the revolutionary way of learning that Mobile learning was showing. Despite showing the good results and support from all participants in 2001, EU didn't finance Mobile learning.

The financial problems in 2002 lead to personnel cuts and turmoil in the management team and board for Use Your Cell.

But in 2003 Use Your Cell got project financing to set up a project cluster with Gävle University for research around mobile technology and Mobile learning pedagogic. Participants were four municipalities with participating schools, the industry represented by Tele2 Comviq, Siemens, Bonnier, Liber, Natur och Kultur and of course Use Your Cell with knowledge about and technology for Mobile learning. The triumvirate of private organizations, University and public sector got Swedish regional EU financing for a new Mobile learning project during one year.

It would be the world's second as well as the largest user test on Mobile learning with four languages and also other subjects like civics and science, with up to 1 000 high school students aged 13 to 15 and college students. At the same time Use Your Cell started to cooperate with Gävle University with the aim to use the language faculty to prove with academic back up the benefit of

Mobile learning, to have students write master's essays on Mobile learning and attract the world to be part of a new era of learning, dragging education into a new millennium. The SMS cost issue was solved for the project with Tele2/Comviq putting in SMS traffic worth of 7 MSEK (1 million dollars) into the project.

The project started and was implemented according to plan but didn't reach the full amount of users and subjects. The problems with financing eventually proved to be insurmountable. It wasn't possible to lift the technology enough to create a user experience and support fit for 2003 and 2004 with too little financial back up. And the cumbersome struggle to find financing led to lack of focus on driving the development of the Mobile learning service. And to Mikael Flovén and the rest of the team it eventually was evident that it was far from fun and far from "using your cell", as the witty idea was with the company name when Use Your Cell was founded.

In 2004 the financial and mental resources were almost emptied and management decided to close Use Your Cell's activities. Mikael Flovén, the pioneer, creator and father of Mobile learning, m-learning and "Mobilt lärande" left the stage. So did Use Your Cell the first Mobile learning company in the world.

The past eight years after Use Your Cell, the perception and market for Mobile learning/m-learning/Mobilt lärande has matured. SMS and cost for transmission has fallen dramatically and is no longer an obstacle. The technology is offering completely new possibilities for the user interface. EU has put money into research. Content providers have added Mobile learning to their offerings and other players are active with Mobile learning. And of course the technology has merged the mobile phone with the computer and every other possible gadget which makes the vision of Use Your Cell possible to be fulfilled with e.g. different apps.



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