

Summary

1. **Volume of investments required – \$ 390 thousand.**
2. **Production** – software for creating dialog reference systems with natural language interface (Virtual Representatives).
3. **Trade marks** – none.

Company profile

Date of establishment – August 2001. Semantics Ltd. was created by Nail Ikhsanov for commercialization of his own researches in the area of machine understanding of natural language text. In 2002–2004 the series of applied conversational information systems with natural language interface in Russian and English languages were completed and passed to customer.

Signs of public recognition – none.

Number of employees – 2 persons (2002–2005 – 7 persons).

Team

Ikhsanov Nail – CEO, 56 y.o., PhD (Computer Science), mathematician. Founder of Semantics Ltd., worked before as a lecturer and researcher at universities and science research institutes. Has an experience of R&D in instrument-making industry at the Ministry and Academy of Sciences institutes; the author of 28 papers.

Mukhamedyarov Rustam – cofounder of Semantics Ltd., 36 y.o. CEO and cofounder of Russian-Spanish enterprise Aretex TRS, Kazan.

Products characteristics

Mass dissemination of personal computers and Internet has brought to extraordinary relevance of the problem of effective interaction between a mass user and a computer. As a consequence, a new direction of software development emerged: dialog reference systems with natural language (NL) interface – Virtual Representative (VR). The VRs application is especially actual at the enterprises using Internet for selling their own production – Internet-shops, software, music and other content distributors. Not less effective usage of the VRs by the enterprises applying Internet for representation of their own production for customers in global scale, since large amount of information force users to work much to find needed information about production. VRs execute functions of a natural firm representative, giving to user consultations by NL processing (NLP) based dialog.

Our production – instrumental and applied software for creating VR and other types of NLP-based dialog reference systems. All software is original, based on contemporary linguistic theories and the author's scientific results.

The novelty and relevance of the problem of machine understanding of NL allow to figure on large commercial perspectives of given technology, because the dialog NLP interfaces become a standard part of web sites and applied systems.

Sound mathematical basis for used method of NL machine understanding is the basic distinction of Semantics Ltd. from possible competitors. Existing of this basis allows to develop and improve algorithms and methods of NL formalization, and consequently of developed VR features. A majority of foreign analogues have no scientific basis, and as a result customer gets a low-quality product. There were some cases when startups destined for VR creating were closed after several years of financing.

At the same time it is necessary to note that market of VR applications is developing continually – new applications arise, for example:

- advertising platform – one chatbot (SmarterChild) in AOL Instant Messenger during one year had conversations with 8 million subscribers, some of which declared their love to it;
- technical consultant (Ford enterprise uses VR for consulting dealers);
- librarian (NLM – National US Medical Library uses VR as consultant for literature searching);
- VR not only informs buyer in Internet-shop, but redirects to concrete trademark or product (Engagement marketing);
- There is expressed some anxiety in India that VRs could take jobs away from Indian business process outsourcers (BPO).

Market VR suppliers don't have a technology to produce VRs as mass finished commodities, making only custom-designed ones. Arising of rival developers is possible, but VR market is in stage of forming now, and appearance of explicit leaders is not expected there in the nearest 5 years, like it was during the origination of Operation Systems or Database Systems markets.

Mass delivering of VRs as finished commodities is restrained by absence of effective technologies for VR manufacturing, which demands the manufacturers' participation in creating of each applied VR. Solving of this problem is the main goal of the project.

Current state

During three years Semantics Ltd. has been developing software on request of mobile operator TAIF-TELKOM (Kazan). A number of dialog applied systems with NL interface were developed and delivered to the customer, including: "Dialog system of translation user requests to SQL", "Guide to SMS-services", "Guide to mobile ringtones". Total volume of implemented work amounted to more than \$ 140 ths.

At 2005 the customer discontinued financing due to changing of its technical politics (becoming a subdivision of MTS). At 2005–2006 Semantics Ltd. did not receive any order, executing only its own developments devoted to improving NL machine understanding technology.

Development strategy

Use of funds

1. R&D	70%
2. Acquisition of fixed assets	10%
3. Marketing	5%
4. Acquisition of current assets	10%
5. Other	5%

Prospective outcome of investment

The main goal of the project is creating new technology (instrumental software) – universal Virtual Representative, which gives an opportunity for mass delivering of VR software products as finished commodities and taking leading position at the VR world market.

Marketing & Markets

World market of VRs and technologies for their creating is in stage of forming now. Main reason for this is novelty and complexity of VR creating technology. At 2002 IDC group estimated potentialities of world VR market's volume at \$ 2 bln per year, but actually it can be larger, because this technology not only could change human-computer interaction methods, but would create new kinds of computer applications – intellectual applications.

Existing suppliers deliver VRs only as single applications for highly specialized tasks. Enterprise which first produces universal VR will get leadership at the world VR market, opening it for mass consumption.

Today it is essentially important to enter this market among the earliest participants and occupy the leading position. On the base of investments requested, creating of universal VR for English-speaking market would allow occupying at least 30% of the world VR market – which will be equal, for minimal calculations, at least \$ 600 mln per year 2011.

For providing necessary sales volume it's planned to use sales through Internet as main channel for production distribution for corporate and private customers. Creating of special web site is planned for VR's sales and marketing; trademark registration and using world commercial Internet-places for distribution of products is planned also.

Interaction with investor

Assumed share of investor – 33%, residuary part of the investment may be invested as a long-term credit. Investor exits the investment by a buyback (buyout of the investor's holding by the company's management), or by sale of the company to strategic buyer.

Pay-back period for investment – 3 year, most effective period for investor's exit – 4–5 years. Rough estimate of investor share – \$ 200 mln, in the case of success of the project's realization.