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## Sexual Human Computer Interfaces in 2006 and our Future Responsibility in its Development

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### Abstract

The digital activation of sexuality has begun. We are at a point in history where we must take the responsibility to propel this science into the future. Humans have always embraced technology for sexual purposes. From the invention of the printing press, the telephone, to the latest in sexual teledildonic devices history has proved that these technologies have not alienated humans from each other but have brought them together. Current work in sexual HCI must strive to humanize the technology while working to advance the science in varied cultural, political, and social environments.

### Keywords

Guides, instructions, author's kit, conference publications

### ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous. See [3] for help using the ACM Classification system.

### Introduction

According to the World Health Organization there are over 100 million sex acts in the world every day. That is over 69,000 people achieving orgasm this very minute.

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Wikipedia defines orgasm as: orgasm (from Greek *orgasmós*, from *orgán* - "to swell", "be lustful"), also known as a sexual climax, is a pleasurable physical, psychological or emotional response to prolonged sexual stimulation. It is often accompanied by a notable physiological reaction, such as ejaculation, blushing or spasm and may be followed by aftershocks.

I bring that up because we are here to talk about orgasm. The end result of our work here today is an orgasm.

No matter what prolecity you may subscribe to. We are all here to spread the digital activation of the sexual mind. From artists and creative designers to engineers to project managers to capitalists we are all here for one thing. An orgasm.

This may be acedemia but I just want to put it all into perspective.

### **Sexual Device Technology**

Where are we at with sexual devices and technologies in April 2006? Do they work? The women have it good. As far as sexual effector technology goes-the computer to female genital interface technology has reached a plateau of technology.

On the top end of things there are current high-end sex machines on the market that can 'fully satisfy' a female from a web browser from anywhere in the world. When I say 'fully satisfy' I mean for lack of better terms, too pooped to pop. Orgasmed out. These machines really work. I do not think I could

improve on the technologies involved in my work on female sex technology. It just works.

Male computer to genital technology on the other hand needs some improvement. There are a few commercially available devices on the market that have piqued the curiosity of the less discriminating staff for beta testing over here at the uGenesis Limited labs but many off the shelf devices still require some manual control.



The only device that seems to push the edges of technology is Venus 2000. The Venus 2000 is the most advanced male sexual aid commercially

available on the market. It is a hands free device that has a variable stroke speed from 8 to 300 strokes per minute. It also produces a pulsing and sucking sensation.

Fortunately the male species are easy to adapt and enjoy whatever technology happens to be present at any given time.

On the whole our company uGenesis Limited have standardized on various high-end sexual gratification devices built in house or by ABCO Research of Illinois. ABCO is the manufacturer of the luxury sex machines called the Sybian and Venus 2000.

The gratification devices built in house are pneumatically controlled actuators. The use of compressed air gives the actuator a more natural stroke than the repetitive in and out of most mechanical machines currently on the market. Female riders are also able to control the speed of the machine by using their Kegel muscles.



Upon the discovery of Kegel control we realized we could measure the sexual response of the female riders by measuring contractions. One of our engineers pioneered the use of a browser-based telemetry system that collects human performance data and provides a web feed for viewers and archival purposes.

The system can collect data on contractions, heart rate, blood pressure, and temperature. uGenesis Limited is in a unique position to gather data as we shoot a minimum of 5 to 10 models a month on our various sex machines. We are actively looking for a research partner to capitalize on this opportunity.

If you were to build a sex machine what features would you want on it? How far do you want to go. The development of sexual haptics to enhance your human-to-machine relationships and more importantly your human-to-machine-to-human-to-machine relationship is just a matter of choice and personal taste.

One of the most advanced sexual devices on the Internet at the moment is the thrillhammer EC01. Built during the summer of 2000 and introduced in January 2001, the thrillhammer EC01's gratification device has two separate movements. The Vaginal Insert rotates within the vagina to stimulate the Grafenberg Spot. The entire clitoral area, which also contacts the vulva, vibrates, as does the vaginal insert. Separate controls allow independent regulation of vibration and rotation over a wide range of speeds.



This device is attached to the serial port of the host computer. This computer runs thethrillhammer's 2-Way Real Time Video Conferencing and teledildonic subsystems. The computer also acts as an entertainment center when the machine was not in use for profit but rather as a pleasure device. The rider could just ease back into the chair and relax.

thethrillhammer EC01 traveled the globe and allowed porn stars, amateur models, prostitutes, and possibly your next door neighbor to make an honest buck by allowing the world to reach out and touch them from afar. This was one of the first commercial applications of teledildonics.

The first teledildonic demonstration to my knowledge dates back to 1993 where a Norwegian media artist named Stahl Stenslie presented his cyberSM project. The cyberSM project was an attempt to create a real time, visual, auditory, and tactile communication in the world of cyberspace

Stahl Stenslie built full body cyber suits and did a media event connecting a participant in Paris with a participant in Colonge. This was 1993 over what I presume to be 14.4kbs modems.



He is currently a professor of media arts at the School for Media in Colonge and is currently working on interface technologies.

### **The Future of Teledildonics**

The future of Teledildonics' hope lies in the ability to make toys that play well with each other's technologies and interfacing them to the users using these devices.

As far as commercial teledildonic technologies go- there are currently 3 main commercial providers. On the consumer side of things there are Highjoy and Simulate. On the high end side of things there is thethrillhammer.

An open source project exists called the SeXBox project. SeXBox is a open source platform that allows developers to quickly and easily implement interfaces for software controlled sexual interaction through a computer.

The teledildonic industry on the whole is in it's infancy and from a strictly business stand point there are many challenges that are being overcome daily. Many challenges need to be overcome as this sector continues to grow in an e-commerce environment.

For the business owner teledildonics attracts more members by promoting an exciting and unique experience. Providing the ability for members to actually control a sexual device in a performer's home or studio anywhere in the world provides another level of intimacy to online sex.

We have seen in our experience members come back more often and stay in live shows longer. Teledildonics allows for a shared lived experience for the users. Relationships are formed and consummated.

There are currently 3 market leaders in the teledildonic arena. thethrillhammer, Highjoy and Sinulate. Each of these companies have very different business models.

Sinulate and Highjoy devices are bound to the use of their pay-per-use services and include anti-reverse-engineering measures in their hardware and user agreements, meaning that usage of the products outside of the limits set by the manufacturer is not possible. Both charge a monthly fee or a 'per minute fee' for these toys to operate.

thethrillhammer platform has been used for both free and commercial uses. thethrillhammer is a proponent of an open source teledildonic network. thethrillhammer offers its technology as a value added service for special entertainment shows including live television.

End users are finally being able to add 'touch' to the current see/hear/type world of online communities and cam networks. The problem is that each Internet enabled sex toy speaks it's own language and each teledildonic providers refuse to standardize.

What is needed is a seamless integration of a middleware solution that works with the different business models and backend technology. It needs a system of revenue assurance for the commercial providers but allows communication with the open source users. A system that allows all the companies to work in a secure, stable environment that provides a system of accountability. A system that pushes for standardization in web-controlled sex toys. A directory so users may find one another on various platforms, interact, and when all is said and done-have an orgasm.

This system needs to provide a solution for the various payroll and billing systems of the various cam systems, the teledildonic relay services, the model or studio, the freenets, and instant messenger clients.

My current work involves the development of a multi-platform teledildonic relay and auditing service to allow ALL teledildonic users to have access to the technology all the while pushing for a standard in this new niche.

Ultimately the members that use these devices need to have a transparent end user experience.

As prices drop on various immersive technologies, the field of teledildonics will advance and the devices and sensations will be more realistic.

Technology exists today to create virtual reality environments where you can 'jack' into an immersive simulation with a computer-generated partner of your choice. You can feel the contours of their body. You can sexually interact with this simulation with it affecting many different senses. Sight, sound, AND touch.

The sky's the limit on what can be achieved on. It is all based on budget on how far you would want to go with it. The bottom line is you really can't put a price on pleasure.

### **Human-Machine Sexual Interactions**

From a HCI standpoint many different disciplines all work to enhance human-machine sex interactions. We are living in an exciting time where the work and research in the usability, engineering, and design of human sexual technology is becoming an area of intellectual inquiry.

We are at an exciting time in sexual history where there are infinite possibilities in Cybersex. Computers have a powerful ability to place humans into an altered state in the brain itself. The brain as most of us know is the most powerful sexual organ in the human body.

Two people communicating through their computers can access a wider range of sensation than can be reached by bodily contact alone. No sexual technology is going to replace the kissing, cuddling, nibbling, probing, energy exchanges of real human to human contact. But, however enjoyable, all these experiences exist for us only as registered by our brains. We sense the touch and taste of our lovers

only through clusters of electric signals picked up by neurons and programmed through our nervous system.

It has been known for many years that people who communicate via computers and even the telephone for that matter can reach amazing levels of intimacy. In the past many media experts thought that computers would depersonalize and alienate us more form each other. History has proved that technology has proved that it can be used to enhance sexual and romantic experiences.

The computer as an interpersonal communication device is a powerful organ for neuro-sexual intercourse. When people link up through computers all the complications of bodily contact are bypassed. No zippers, unyielding bra fasteners, body parts, or contraception. People can get down to the matter at hand.

Many species have developed distance courting thus Cybersex is a natural phenomenon. Insects, for example, are pros at this. Crickets and Cicadas make tons of noise on a summer night expressing their sexual desires. Pheromones of a female dog in heat tell the males dogs in the neighborhood how hot and horny that bitch is. In spring testosterone builds up in male songbirds and they burst into song.

Telecommunicated sexual messages have become a standard courting technique in industrial-urban societies where people are separated by distance. The use of the telephone in human adolescents was an inevitable step in sexual evolution. It is even

more so in current society as teenagers work blisters on their hot little thumbs text messaging each other with great fervor.

Why is this? For humans during the onset of puberty, sex circuits in the brain activate. All sorts of new protuberances grow and emerge. Breasts, spontaneous erections and the need to satisfy these new urges really kick in. The hormones are raging. Teenagers use any means possible to satisfy their urges. Boys study images in the pages of Playboy or online to trigger their imaginations. Girls scour over magazines about movie stars and actors. They both spend hours on the phone flirting because it's a safe way to explore erotic interests without actual experimentation. They stimulate each other's imaginations and experiment with different erotic signals.

The brain carries memories of these early events. The use of technology can 'reboot' those memories, which is a good thing because the brain likes to remain active. It does not like the monotony of the same thing day in and day out.

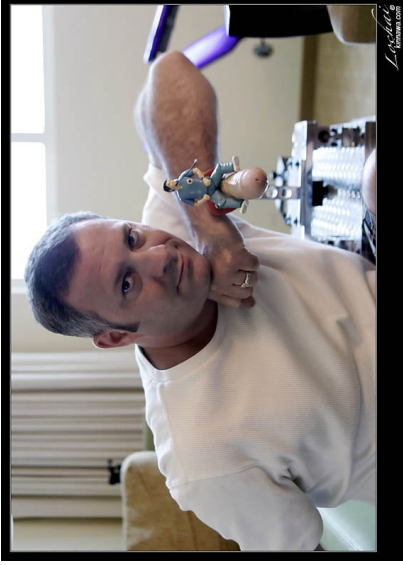
We can reactivate our brains to receive cues and different sensory input to retrieve these memories and reactivate these adolescent circuits. Think back and remember your first crushes and early sexual experiences. Try and remember these visceral experiences. Once you open up this circuit you can work to expand these areas that have been dormant or turned off by cultural, religious, or social mores.

For many people the use of computers, teledildonics, phone sex, and other technologies is the easiest way to arouse and reactivate the sexual brain and technology is a wonderful appliance to activating the sexual brain. These are powerful instruments and a key to growth in human evolution. We must use all tools at our disposal for pleasure, entertainment, education and growth.

### **Conclusion**

From a HCI perspective we must embrace the whole, body and mind. We must work to stimulate both. One of the major considerations in HCI is GUI design. How are we going to make our interfaces more intimate while still providing a physically stimulating experience? Design for these intimate digital interfaces must be comfortable and easy to use for users to adopt these new technologies. Genital interfaces must do it's intended purpose and not merely be novelty products. The sexual technology must continue to advance and be easy to use and actually work.

The digital sexual activation has begun and we must take the responsibility to advance the science without undue political, religious, or social restraints. Let's bring the various disciplines together and use each other's imaginations, experiences, and science to responsibly bring humans together to orgasms.



Allen Stein is founder of uGenesis Limited and a teledildonics pioneer. Inventor of the first-to-market teledildonics sex machine-the thrillhammer-he has been involved in the science for 6 years. The initial popularity of the thrillhammer propelled the company into the adult industry designing various luxury pleasure devices and producing content for the adult industry for consumer consumption. The company offers retail and web based entertainment products for income thus providing a means to continue his research into female sexual response. He has designed and prototyped various immersive interfaces and VR simulations to advance the way humans interact sexually with machines.

Recent Press:

TV Appearances on HBO, SiFi Channel, BBC Channel 4, Canal 14, TechTV

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