

Dentasim

*RestoSim: Restorative Dentistry
Powered by Virtual Reality*



SiMedix
Simulated Medical Experiences

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Ayandenegari Hamafarinan Ofogh is a creative pioneer in design and production of advanced technologies and high-tech equipment in Iran. The company has been founded and directed by educated people with high academic degrees and done more than 40 projects proudly. For more information about us, visit our website.

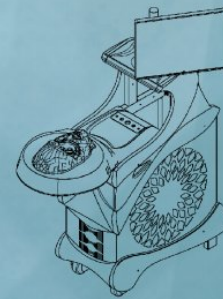


SiMedix is a hi-tech pioneer leader in the business of providing VR (Virtual Reality) medical surgery simulators in the healthcare industry in Asia. We pride ourselves of getting 100 percent of the VR eye surgery simulators market share in Iran. Our clients are among the biggest and largest corporations in the healthcare industry.

SiMedix

DentaSim: is our first developed dental simulator designed and manufactured in order to help dentistry student's to operate in a realistic environment and also keeping patients out of operating rooms.

DentaSim



DentaSim

RestoSim : Restorative Dentistry

Department of Virtual Reality

Virtual reality (VR) refers to computer technologies that use software to generate realistic images, sounds and other sensations that replicate a real environment and simulate a user's physical presence in this environment, by enabling the user to interact with this space and any objects depicted therein. Virtual reality is used to provide trainees with a virtual environment where they can develop their skills without the real-world complications. In other words, Simulation Education is a bridge between classroom learning and real-life experience.

VR Department of has three domains of activity: Medical training simulators, custom operations training simulators and VR hardware developments and integrations. SiMedix is the a brand in medical training simulators, which has focused on ophthalmic surgeries. Medical simulators rely on computerized mannequins that perform several functions of human realistically.



Why Simulator?

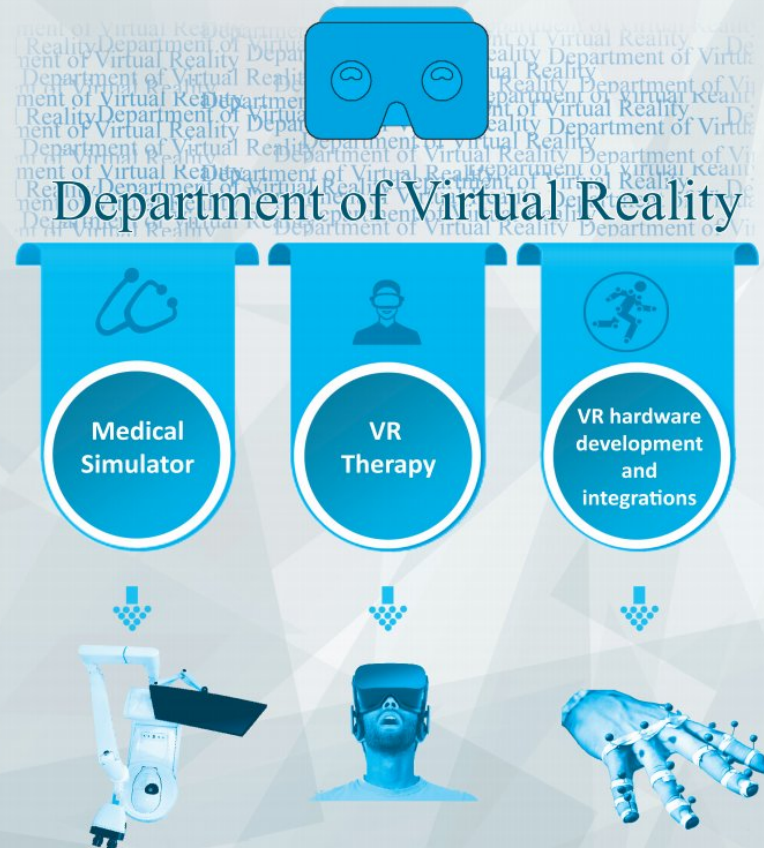
Medical simulators allow trainees to practice what to do in different situations and give them the best possible chance of enhancing skills and reducing medical malpractices. Only by the help of simulators, residents can experience dangerous situations without putting the patient in danger.

Also, simulators have proven far more effectiveness in the amount and retention of knowledge versus conventional classroom teaching:



- Ability to practice potentially risky scenarios in a safe environment
- Increased knowledge retention by more exercising
- reporting in a more complete, consistent and objective form
- demonstration of what Students have learned

Department of Virtual Reality



DentaSim Subsystems



stereo vision Unit

To create 3D view sense and depth of view



Interface Head

The patient's head maquette for leaning doctor's hands during surgery



surgical instruments

Simulator handpieces look like real instruments



Adjustable tracking system

Ergonomic design to achieve comfortable feeling during surgery



Control Touch Screen

Control monitor for observing surgical process by supervisor



Height Adjustable Base



Instrument Foot Pedal

Foot pedal for controlling the instruments

Simulated for restorative dentistry

Taking the patient out of training procedure

- Reducing the risk of malpractice for patients
- High reliability for training
- Performing operations individually or under supervision of a mentor
- Repeatable training

Expertise as a consequence of experience

- Training primary skills to beginners, such as utilizing hand-pieces and space constraints
- Training basic surgical methods, such as , cavity preparation
- Training special techniques
- Enhancement of student's skills
- Progress evaluation
- Learning complex techniques step-by-step

Life-like environment for optimum learning

- Preparing life-like simulation
- learning different styles to approach the patient by a human head model
- High fidelity simulation of the oral environment
- High fidelity modeling of Stereo vision

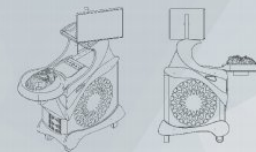
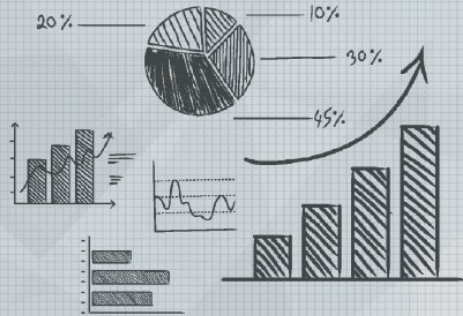
Realistic modeling of machines and instruments

- Availability of different hand-pieces
- Realistic modeling of fluids, mirror and light reflections
- Life-like machine interface and functions



Objective Evaluation

- Providing brief description of the students' performance after completing each part of training
- Recording different information such as instrument handling, effectiveness and interacting tissues
- Monitoring students' performance
- Providing documented reports for mentor to evaluate students' development



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