UNIVERSITY OF MINNESOTA
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Virtual Dental Simulation Software for Dental Assessment

IP Status: Issued US Patent; **Application #:** 10/385,169

Virtual Dental Patient Compares Patient to Larger Population

The Virtual Dental Patient is a combination of systems and methods that read digital medical records to create three-dimensional models. This computerized method for dental assessment provides an accurate three-dimensional representation of the surface anatomy of hard and soft tissues, tooth contacts, and motion of the patient's jaw. The Virtual Dental Patient can accurately and independently represent the motion of the lower jaw in relation to the upper jaw. This dental software package compares the patient's virtual renditions to a database and uses the database to calculate the population statistics for the parameters measured on the renditions. By comparing a particular patient rendition to the population statistics, a report is produced that aids in the diagnosis of the patient's current dental health. The Virtual Dental Patient serves as a dental assessment, providing valuable information in the diagnosis, prognosis, and outcome assessment of the patient's dental health. The Virtual Dental Patient represents a paradigm shift in clinical measurement for dentistry.

MN-IP Try and Buy

Try

- Trial fee is $5,000 for a six month license

Buy

- $30,000 conversion fee (TRY to BUY)
- No patent costs
- Royalty rate of 3% (2% for MN company)
- Royalty free for first $1M in sales

Dental Simulation Software Enhances Detection of Dental Disease

The Virtual Dental Patient can be used to go beyond the traditional dental examination. The Virtual Dental Patient provides visibility, numerical measurement (including volume and depth changes), and comparison with a previous time period. This computer system provides an environment of near photographic quality, with hard and soft tissue textural details and anatomical relations preserved under static or dynamic conditions. Finally, the Virtual Dental Patient enables a dentist to detect sub-clinical change. Changes below the threshold of chair side observation are now made visible; therefore, dental disease can be detected before it becomes a clinical problem. This dental software was designed to benefit dental professionals across the world by being globally accessible through its online database.

FEATURES OF THE VIRTUAL DENTAL PATIENT SOFTWARE

Technology ID

99091

Category

Life Sciences/Health IT
Life Sciences/Medical Devices
Software & IT/Algorithms
Software & IT/Education & Training
Software & IT/Health IT
Software & IT/Simulation & Modeling

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- Dental simulation for orthodontic movements--the Virtual Dental Patient includes force, movement, and property parameters of tissue and material to enable a more accurate three dimensional model.
- Database of virtual renditions-- compiled from the patient's digital medical records, the database calculates population statistics and allows comparisons to be made.
- Monitors changes over time-- provides dental professionals with a virtual "snapshot" in time, helpful for diagnosis and treatment.
- Learning opportunity for students- provides an accurate model for students to advance their knowledge and skills before and after patient treatment.
- Secure database-- allows dental professionals, colleagues, and consultants to access the database to review, provide feedback, and analyze treatment procedures.

The Virtual Dental Patient is fully developed and ready to be licensed to a company to be packaged and distributed. The software runs on a PC platform using the Windows XP 64 operating system.

Researchers: Ralph Delong, DDS, MS, PhD Professor Emeritus, Department of Restorative Sciences
William H. Douglas, BDS, MS, PhD Professor Emeritus, Department of Restorative Sciences, School of Dentistry