

ABSTRACT

This project will explain the development of GEMXPRT SYSTEM, a software that can identify the precious and semi-precious stones by using their physical and optical properties -- refractive index, double refractive index, hardness, specific gravity, color, etcetera -- as inputs of the system. All precious and semi-precious have something special, something beautiful about them. In the past only few stones were classed as gems, but today there are many; and new ones are being discovered all the time. Most of them are minerals, some are rocks, and some are organic origin. The term precious stones refer to stones with hardness ranging from eight to 10, while semi-precious stones refer to softer of less value as opposed to precious stones. The designation is still used in the trade but is not a sound expression because many so-called semi-precious stones are more valuable than precious ones. A better term for all is gemstone.