Can a patient who has lost the sense of sight learn to recognize a tactile representation of a work of visual art? If so, do any similarities exist between the "touch tracks" such a patient's fingers follow when tactiley "viewing" such a representation, and the "eye tracks" a sighted person follows when viewing the corresponding visual image? Cognitive neuroscientists exploring these questions require a means to fabricate multi-textured surfaces whose texture patterns encode a tactile equivalent of a given visual image. Fortunately, the recent emergence of 3D printing technology has greatly simplified this process; but the process still requires the specification of color/texture mappings and the translation of color visual images (typically supplied in .jpg format) into the STL-format files used as input to 3D printers. This thesis project comprised the design, coding, and testing of a computer-based system fulfilling those requirements.