

STERI-WRITE

Case study:

- **Background:** Patients checking in for appointments at the Doctor's Office are required to sign in and at times fill-in documents regarding their health and insurance using a pen provided at the front desk or check-in counter. These pens are handled and repeatedly reused by all patients including medical staff.
- **Problem:** Germs and infections are easily transferred from person to person who handle the same objects without cleansing the object or their hands before and after use. Many who visit the doctor's office are there because they are sick and may transfer their germs and infections onto items they touch or handle in preparation for their medical appointment. The one item that all patients handle and touch is the sign-in pen.
- **Solution:** Our client, an ophthalmologist and leading surgeon in his field, presented his idea for a device that would automatically sterilize the sign-in pens before and after each individual use thus eliminating the transference of germs and infections from patient to patient and from patient to medical staff, all of whom come in contact with the sign-in pens. The GID design team developed the ***Steri-Write*** product that was a challenge from mechanical, electronic, and programming requirements. The team conceived a device that would house multiple sign-in pens in a container with an integral UV sterilizing chamber. UV light is harmful and therefore had to be contained in a manner that would effectively sterilize the pens and would not harm the users. A patient or medical staff would approach the apparatus and with the wave of their hand over an optical sensor would be presented with an individual sterilized sign-in pen from the presentation chamber. Upon completion of use the pen would be returned to the Steri-Write apparatus and inserted into the return chamber. Each pen is has its own compartment that is secured to a disc both of which rotate in a choreographed manner to present the pens to the sterilization chamber for a predetermined amount of time and eventually available for use by patients and staff. A program was developed that would provide the intuitive function of the device and ensure that a pen could not be presented for use that had not been thoroughly sterilized. Three engineering disciplines were incorporated into an attractive industrial design for a product worthy of the professional environment where it will be utilized.