Low-Power Large Aperture Adaptive Lenses for Smart Eyeglasses

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Technology description

Invention Summary
U-6085 is a low power large aperture variable focus lens for smart glasses. This technology utilizes electricity to autofocus glasses. The liquid lenses are controlled by an electronic actuator to compress or stretch the glass providing a variable aperture. This works in a similar way to bifocal spectacles providing the user with a range of focus beyond that of traditional eyewear. Because of the nature of the invention it is more versatile than bifocals or multifocal glasses as it possesses the same function of having focus and different depths without becoming blurry in the other sections of the glasses.
Market Opportunity
In the United States, nearly 100% of people over the age of 45 (121,757,425 people) have presbyopia, a condition for which the use of bifocal, trifocal, multifocal and progressive lenses is generally prescribed. There is also approximately 14.4 million children under the age of 18 that use prescription eyewear and a further 3.9 million that use prescription contacts. This leads to roughly 136.15 million people who could benefit from this device. Roughly 35% of people who wear glasses purchase a new set each year meaning 48 million people from the target population purchase glasses each year. Taking into account the increasing popularity of contacts and vision correction surgery, this number can be decreased to roughly 24 million people. Additionally, some people only wear glasses for reading and would be unlikely to spend the money required for U-6085. Given these trends and estimated market adaption, the final target customer for the first several years would encompass between 5-10 million people or assuming the inventors suggest price of $1000 per pair of glasses $5 to $10 billion in revenue.

Advantages

Large aperture providing all eye patients with clarity of vision at a large variation in depth of field
Entire glass changes shape making the image clear no matter where you look through the lenses
Electronic – works automatically as opposed to the manual glasses that are the only other option on the market currently

Institution

The University of Utah

Inventors

Hanseup Kim
USTAR Assistant Professor
Electrical & Computer Engineering
Nazmul Hasan
Research Assistant
Electrical and Computer Engineering
Carlos Mastrangelo
Professor
Electrical & Computer Engineering