Foot pain caused by wearing high heels is a very common problem among women. The invention of automatic heel height adjustment system aims to help women solve this serious problem.

The invented dress shoes have a unique feature of automatic heel height adjustment system. The invented rotating outsole and removable heel allow the state of the shoe to switch between flat shoe and high heel automatically in few seconds. Most importantly, the invention can help relieve foot pain by changing the state of the shoe according to users’ need.

According to statisticbrain.com, the women’s dress shoes occupy 35% of women’s shoes market, which is ranked No.2 in the category of women’s shoes (women’s casual shoes is ranked No.1, occupying 42.5% of the market). So we believe that there is a huge market potential for such invention.

The characteristic features of the invented dress shoes includes an automatically rotating outsole and modular design high heel, which allow the dress shoes to change the heel height, which makes the shoes become either high heel shoes or flat shoes depending on the wearer’s preference and need. The developed automatic rotating system consists of following components:

- the motor including a drive shaft:
- the drive shaft including seven gears:
- the drive shaft being configured to adjust a rear sole section (heel) and a front sole portion (Forefoot):
- a microcontroller connected to one motor, one pressure sensor, one battery and one USB charger:
- a sole including 6 cavities.