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המכללה האקדמית להנדסה סמי שמעון - 2602					

## *New app improves rehabilitation from Bell's palsy*

Software engineering students at the Shamoon College of Engineering (SCE) have developed a therapeutic application for patients with the facial nerve paralysis called Bell's palsy. Every year, about 2,000 Israelis develop the neurological disorder, which affects both men and women and which gradually passes but is very uncomfortable and embarrassing. The palsy is caused by damage to the nerve passing from the brain to the face and controls half of the face. Initially, the patient is unable to move the facial muscles in the affected half. With time, the nerve grows again and is restored.

This is where treatment begins. The patient meets with a physiotherapist and together they practice different movements and expressions, thus teaching the muscles how to reactivate. The therapist asks the patient to perform a certain expression, after which he grades the patient between one and five in several categories that are weighted to a total score.

A team of four students at SCE, which has campuses in Ashdod and Beersheba, found a better and more objective way to treat Bell's palsy. They created an application called PhysioTrack with which the patient photographs himself performing various expressions. Using processing and object analysis, the application finds the relevant points on the face. At a touch of a button, the results can be sent to the therapist, who can from afar examine the patient's condition and progress of the disease. The app also helps the patient mentally by providing him with relevant information on the neurological disorder; it even visualizes the progress of his recovery.

Vered Engel, Yotam Cohen, Yoni Sadeh and Ofek Benaza – fourth-year software engineering students at SCE – designed and built the application as part of their thesis. The need for the project was received by students from TOM, a patient group that connects people with disabilities to creators and developers in various fields, who expressed the need for such development and even

accompanied the process.

“We worked with physiotherapists and professionals in the field to create meaningful development that will lead to change and meet the needs of our users,” concluded Cohen.

### HEALTH SCAN

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