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Project title: Cleft Lip Aesthetics Tool

Abstract

The project is about determining the success of cleft lip and palate surgeries. Using a mobile app, paediatric plastic surgeons should be able to evaluate the aesthetic outcome of the surgery by determining how symmetrical the lips are. The user should be able to draw around the lip region of the target image and then receive a symmetry score, determining the successfulness of the surgery. This would replace the previous, subjective method of having a panel of people determine success. Having the app be multi-platform would be ideal which meant Apache Cordova was used for development. There should also be offline functionality which means the app will be synced to an online server to allow data to be transferred as required.

The app was developed with Cordova to allow multiplatform functionality to be implemented quicker. The user interface was developed with focus on ease of access. Once all the pages were set up, the app was linked to a server which allows downloading and uploading of drawings and images to the online database. The drawing feature was then implemented and pixel comparison was used to produce a symmetry score based off the drawing.

The goals of the project have successfully been reached which means a multi-platform app with offline features has been produced which allows users to create a drawing based off a patient's image and receive a symmetry score. These drawings can be uploaded to the cloud for future analytical work by researchers to allow for further improvements to the app. A user manual was produced to demonstrate the app's features in a simple manner. A system manual has also been produced regarding the setup of the project to assist in further development.