# EyeGaze: Automated sheet music page-turning using gaze detection

Christopher Nixon, Master in Computer Science (MCS)
University of Dublin, Trinity College, 2022

Supervisor: Dr. Kenneth Dawson-Howe

Turning pages of sheet music is a common source of irritation for musicians, and this paper aims to address this problem by developing the EyeGaze application. The EyeGaze application has been developed for a tablet device and explores the viability of using gaze detection as a method of triggering automatic page-turns in a sheet music application. Creating a passive interface where page-turns are triggered without conscious input from the musician will free musicians from the distraction of thinking about page-turns. In an effort to understand the effect that various gaze detection solutions and page-turning systems have on the performance of the application, two different gaze detection solutions and three different page-turning systems have been implemented. These systems are evaluated by a user study where both qualitative and quantitative results were obtained. The results clearly indicated that certain page-turning systems are better suited to this use case than others, and highlighted the challenges with performing gaze detection in a general environment with uncontrolled lighting or positioning of the user.