Eye Snake: Towards Eye-based Gaming for Mobile Devices

Team project 2017

School of Business Informatics and Mathematics

Software Engineering Group (University of Mannheim)

Team of graduates/master students from the University of Mannheim
Eye-based Gaming

- Eye-based navigation of mobile devices has been proven to work well

- Example: Samsung’s Smart Scroll function
  - invokes scroll down/up when the user gazes at the bottom/top of the screen

- Gaze-based gaming is a trend
  - But requires special hardware
  - Very costly (price > 200 Euro)
Goal of the Project

• Given:
  – Open-source computer vision library as framework for video stream processing
  – OpenCV for Android
  – Working eye tracking sample app
    • We will provide you the code and help you with the setup

• Environmental settings:
  – Android Studio IDE
  – Jira + Bitbucket for collaboration

Goal of the Project

• Challenges:
  – Design and implementation of Snake for Android supporting gaze-based navigation

• Goal:
  – Providing an affordable app
  – Realizing the popular game Snake as a gaze-based version
Conditions

• Contact persons:
  – Prof. Colin Atkinson
    Lehrstuhl für Softwaretechnik
    atkinson@informatik.uni-mannheim.de
    (administration)
  – Anton Wachner
    anton_wachner@yahoo.de
    (customer/technical support)

• Required skills
  – Good programming skills in Java (C++ could be helpful)

• Duration
  – 6 months
Conditions

• Participants:
  – 3-9 students

• Language:
  – English/German

• Internal project with requirements, goals and timetable defined by agreement with the supervisor