Ollscoil Teicneolaíochta an Atlantaigh

Atlantic Technological University

B.Sc. (Hons) in Software Development

Applied Project & Minor Dissertation

Project Proposal

Each student must complete the following form and submit it to their supervisor for consideration. Once your supervisor has signed-off on the proposal, you must submit the document for consideration using Moodle.

1. Student Name:	Eoin Lawless
2. Supervisor Name:	Andrew Beatty
3. Project Name:	DepFit – Fitness App(OpenCV Computer vision)

4. Project Context

Describe the context of the problem domain here. Explain what you are proposing to do and your rationale for doing it. Explain why the problem domain is of interest.

For our project, We are making a fitness app.. This will be available on Android (and possibly IOS). The main application I will be trying to make, is using a camera to correct posing on squatting or yoga poses. This can come in very handy for Home workouts and to help decrease future injuries

A secondary application to work on the would be calculating the distance people run but has yet to be determined in the time frame.
Our project will be broken into three parts, Due doing dev-ops, Pedro doing front-end, and I shall be focusing on the

It is interesting to me to work with OpenCV/GuidePipe computer vision to enable a wide range of applications and its large array of tools, like motion tracking, object detection and possibly interactive code.

5. Project Objectives

Write out the key objectives of the project as bullet points. Each objective should be clear, realisable and measurable / testable, i.e. the success of your project is determined by the degree to which these are realised.

- Learning more into OpenCV and the intricacies of GuidePipe, exploring its uses of computer vision and image processing
- Creating realistic test cases to ensure the effectiveness and reliability of the app
- Using agile methodologies and applying them to real-world situations, and using Gitflow for version control.
- Developing camera vision to help specific needs of the human movement
- Using python more efficiently
- Work on Motion tracking and artificial recognition

6. Technologies & System Architecture

Explain the technologies you are going to use and why you selected them. These include the programming languages, operating systems, presentation and storage technologies and any cloud / 3rd party libraries / services that you intend to use.

Architecture:
React Native
FireBase
GitHub

Languages:
Selenium – Testing
Python Scripts
OpenCV /GuidePipe
React motion/tailwind
JavaScript/TypeScript

7. Schedule of Work

Using a Gantt chart or tabular format, outline your schedule of work for all the key project activities, deliverables and dates.

Dates	Action	Time Period	Goals
19/09/23 - 14/10/23	Project Planning	4 Weeks	Planning Project roles/architecture
			Finishing Propsal Form
			Project Goals and timeline
15/10/23 - 22/10/23	Enviroment Set-up	1 Week	Setting up gitHub repository
			coding enviroments
			OpenCv and GuidePipe initiation
23/10/23 - 03/03/24	Cycle	2 weeks	First version building
	Cycle	2 weeks	second version
	Cycle	2 weeks	third version
	Cycle	4 weeks	Fourth version/ Holidays/Exams
	Cycle	3 weeks	Fifth Version/Exams
	Cycle	2 weeks	Sixth version
	Final Cycle	2 weeks	Seventh Version
04/03/24 - 31/03/24	Write up	4 weeks	Documentation and dissertation
01/04/24 - 12/04/24	Final Touches	2 weeks	Presentation work
			Recordings and final Write up