Risk Management

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Fish detection in low light conditions

KF5012 Software Engineering Practice

Computer Science with Artificial Intelligence

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## Project outlines

The project was designed first with the technology in mind and second with the purpose it should have in real life situations, thus a lack of direction started showing from the very beginning. Members had experience working together and that was taken into consideration when forming the group.

## Introduction

Fish detection is an adaptation to Object detection, thus a part of Computer Vision. The technology has had time to mature and is now an essential part of consumer products – from face filters to smart automotive applications. Numerous open-source implementations are available in the development community. The scale of the project is big, there existing a wide variety of fish species and habitats with poor lighting conditions.

## Risk identification

* Personal risks for team members
  + Exhaustion and personal extenuating factors
  + Overworking and bad mission distribution
  + Poor time management
* Not granting realistic timeframes
* Equipment shortage
  + Not allocating enough time to training
  + Inability to communicate due to poor network conditions
* Major events causing discourse in the team element
* Lack of communication between participating parties
* Project description is too vague – not enough to focus on one solution

## Risk Estimation

In evaluating the risks, the highest ranking risk factor gets the maximum mark and the rest get a proportion of it based on their importance.

* Not granting realistic timeframes
  + 10/10 chances of happening
  + 10/10 chances of it affecting the workflow of the team
* Personal risks for team members
  + 8/10 chances of happening
  + 9/10 chances of it affecting the workflow of the team
* Lack of communication between participating parties
  + 8/10 chances of happening
  + 7/10 chances of affecting the workflow of the team
* Equipment shortage
  + 7/10 chances of happening
  + 7/10 chances of affecting the workflow of the team
* Major events causing discourse in the team element
  + 6/10 chances of happening
  + 7/10 chances of affecting the workflow of the team
* Project description is too vague
  + 5/10 chances of happening
  + 6/10 chances of affecting the workflow of the team

## Risk evaluation

* Not granting realistic timeframes
  + Risk exposure (RE) – 100
  + Possible solution – keeping good contact with academic bodies
* Personal risks for team members
  + Risk exposure (RE) – 72
  + Possible solution – keeping good team communication and spirit
* Lack of communication between participating parties
  + Risk exposure (RE) – 56
  + Possible solution – making more communication channels available and asking team members for updates constantly
* Equipment shortage
  + Risk exposure (RE) – 49
  + Possible solution – implementing both local and cloud solutions to accommodate for hardware differences
* Major events causing discourse in the team element
  + Risk exposure (RE) – 42 – mark given before Covid-19
  + Risk is diverse and cannot be accounted for
  + Covid-19 changed all other risk factors and will rank higher in future projects
* Project description is too vague
  + Risk exposure (RE) – 30
  + Possible solution – frequent team meetings and communication to discuss current state of the project