Project Plan

Open Program

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| **Project Information** | |
| Project members | Thomas van der Molen |
| Project Name | Open Program |

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# Introduction

The Open Program is a 16-week program, offering 4 hours per week (16 x 4 = 64h) of time for extra activities to help improve yourself within the domain of the Advanced-AI education.

# Plan

My plan for the Open Program, will be separated into two different activities.

## Internship

As the semester after Advanced-AI will be my graduation internship semester, I will have to find a graduation internship during the Advanced-AI semester. I have spent a significant amount of time the previous semesters into exploring what professional directions I would prefer to go into after my education.

From the previously done preliminary research, I have determined that I prefer a more open/free working approach, best offered in the ZZP working direction. I have however, determined that there will be some pitfalls I will have to avoid when going into a more self-employed/free-lance working direction.

To help me become better at communicating with companies and avoid common pitfalls that come along with the additional self-reliance of this direction of work, I will be looking for a graduation internship into large software companies that offer freedom/lead -positions within their projects, or (and the currently preferred option) IT consultancy firms.

To help me get the best internship possible, I have already started on connecting with people of interest, and building up my professional portfolio, this process is however not finished yet.

|  |  |  |
| --- | --- | --- |
| **Portfolio component** | **Description** | **Progress** |
| CV | Root information point when contacting companies. | Must be updated. |
| Recommendations | LinkedIn recommendations to help display current professional level, and give credit to work done (3/6 people reached out to). | 3/6 people reached out to, 2/3 people given recommendation. |
| Portfolio website | Expanded personal/project information (CV extension) | Release 1.0.0 live, requires feedback, updated profile picture & live demo of WebAdventure |

During the work on these components, a list of potential companies should be built up too, for this several sources can be used, and should be explored such as the Fontys ASAM portal and LinkedIn Jobs section.

### TimeLine

|  |  |
| --- | --- |
| **Week** | **Task** |
| **1** | Finish portfolio website release 1.0.0 |
| **2** | Receive feedback on portfolio website |
| **3** | Write CV |
| **4** | Update Portfolio website based on feedback, including adding live demo of WebAdventure back-end |
| **5** |
| **6** | Create list of internship companies to contact |
| **7 (vacation)** |
| **8** |
| **9** | Contact tier 1 potential internship companies |
| **10** | Possible follow-up contact with tier 1 internship companies |
| **11** |
| **12** |
| **13** | Possible contact tier 2 internship companies |
| **14** | Possible follow-up contact with tier 2 internship companies |
| **15** |
| **16** |
| **17 (vacation)** |
| **18 (vacation)** |
| **19** |
| **20** |

*Note: This timeline does not follow Fontys week timeline, as it includes vacations.*

*Week 1: September (2023) 4-10*

*Week 20: January (2024) 15-21*

### Goals

The primary goal of this process, will be to find a suitable graduation internship, thereby also proving Learning Outcome 7: Graduation Preparation.

## AI Powered Integration tests

As an extra part of my Open Program, I would like to explore the feasibility of performing automated integration tests by utilizing (most likely) reinforcement learning.

In this process the training phase of the reinforcement model will actually be the part of value, as during reinforcement learning the model will be able to interact with web-applications and be able to possibly find unexpected behaviors or issues.

If this model turns out to be feasible, I will continue to explore/expand on it during the Data Challenge, as it has a significant number of possible applications and extra functionality within the integration testing domain (think of adding snapshots of the screen when a possible event of interest was detected or analyzing the error logs to add useful descriptions to the event).

This project could however, also have ethical implications connected to it. As a model made to find irregularities or issues within web-applications can quickly become a powerful tool for **un**-ethical hackers, or other groups trying to exploit these kinds of applications. On the flip side, this model could also be used by white-hat hackers to improve security and quality of these same applications.

### Timeline

Starting from week 4 of the planning ([take a look at the timeline for the internship process](#_TimeLine_1)), I will start performing research into already performed projects within this domain, as well as start developing a feasibility proof-of-concept, while documenting all my findings.

The plan will be to build the share of time spent on this part of the Open Program as the internship process will slow down while waiting for contact with internship company candidates.

## Goals

The goal of this process will be to determine the feasibility of performing integration tests via a (most likely) reinforcement learning model.

The feasibility can be proven by both research gathered from [Problem Analysis](https://ictresearchmethods.nl/Problem_analysis), [Literary Study](https://ictresearchmethods.nl/Literature_study), [Expert Interview](https://ictresearchmethods.nl/Expert_interview), [Available product analysis](https://ictresearchmethods.nl/Available_product_analysis) or via a proof-of-concept utilizing [Prototyping](https://ictresearchmethods.nl/Prototyping) and [Usability testing](https://ictresearchmethods.nl/Usability_testing).

For prototyping and usability testing, Open-Source projects could be established as base lines, as these will allow for full view and control over the environment, this could also include my own personal web-application projects or possible the products delivered within my company for the projects I lead.