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Deliverable

D3.4 Open Source Release of Proactive Entity Recommender Tool tool



COADAPT

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Dissemination Level		
PU	Public, fully open	x
CO	Confidential, restricted under conditions set out in Model Grant Agreement	<input type="checkbox"/>
CL	Classified	<input type="checkbox"/>

Notices

For information, please contact the project coordinator, Prof Giulio Jacucci, e-mail giulio.jacucci@helsinki.fi

This document is intended to fulfil the contractual obligations of the CO-ADAPT project, which has received funding from the European Union's Horizon 2020 Programme, concerning deliverable D3.4 described in contract 826266.

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Table of Revisions

Version	Date	Description and reason	Author	Affected sections
v0.1	11 Dec 2021	Draft	UH	ALL

Partners

- 1 HELSINGIN YLIOPISTO (UH)
- 2 TYÖTERVEYSLAITOS (FIOH)
- 3 INNOVATION SPRINT (INNO)
- 4 UNIVERSITÀ DEGLI STUDI DI TRENTO (UNITN)
- 5 UNIVERSITÀ DEGLI STUDI DI PADOVA (UNIPD)
- 6 IDEGO SRL (IDEGO)
- 7 BNP SRL (BNP)
- 8 AALTO KORKEAKOULUSAATIO SR (AALTO)
- 9 ETSIMO HEALTHCARE OY (ETSH)
- 10 ELECTROLUX ITALIA SPA (ELUX)

Author(s)

Tung Vuong (UH)

Reviewer(s)

- Giulio Jacucci (UH)

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1 Executive Summary

The COADAPT Project releases a set of core modules of proactive entity recommender as open source release software under the Apache License version 2.0. The goal of the release is to facilitate researchers into building similar applications for the support of information access in context by adapting the offered code.

This document accompanies the deliverable D3.4, Open source release of the proactive entity recommender. The actual deliverable is the open source code of the system and its documentation.

The title of the deliverable was written incorrectly in the proposal stage as it included the text “and Smart Shift Scheduling exemplar”. This part was separated to its own deliverable in the already submitted D3.3 Implementation Generalisability of Smart Shift Scheduling.

2 Introduction

The role of the proactive entity recommender tool, being released as open source, is to support just-in-time access to task-relevant information with digital entities (e.g, documents, applications, topics, and contact information) by leveraging rich contextual information from user interactions.

The entity recommender tool is implemented as an information management assistant for knowledge work users. The tool includes three core modules: 1) a monitoring system that gathers contextual information in the form of text of the document that the user is examining and manipulating; 2) a intent modeling module to predict user search intent and proactively retrieve entities from distributed information repositories related to the task at hand, as well as process explicit search requests in the context of this task; 3) a user interface (UI) presents recommendation that allow users to effortlessly access to the entities.

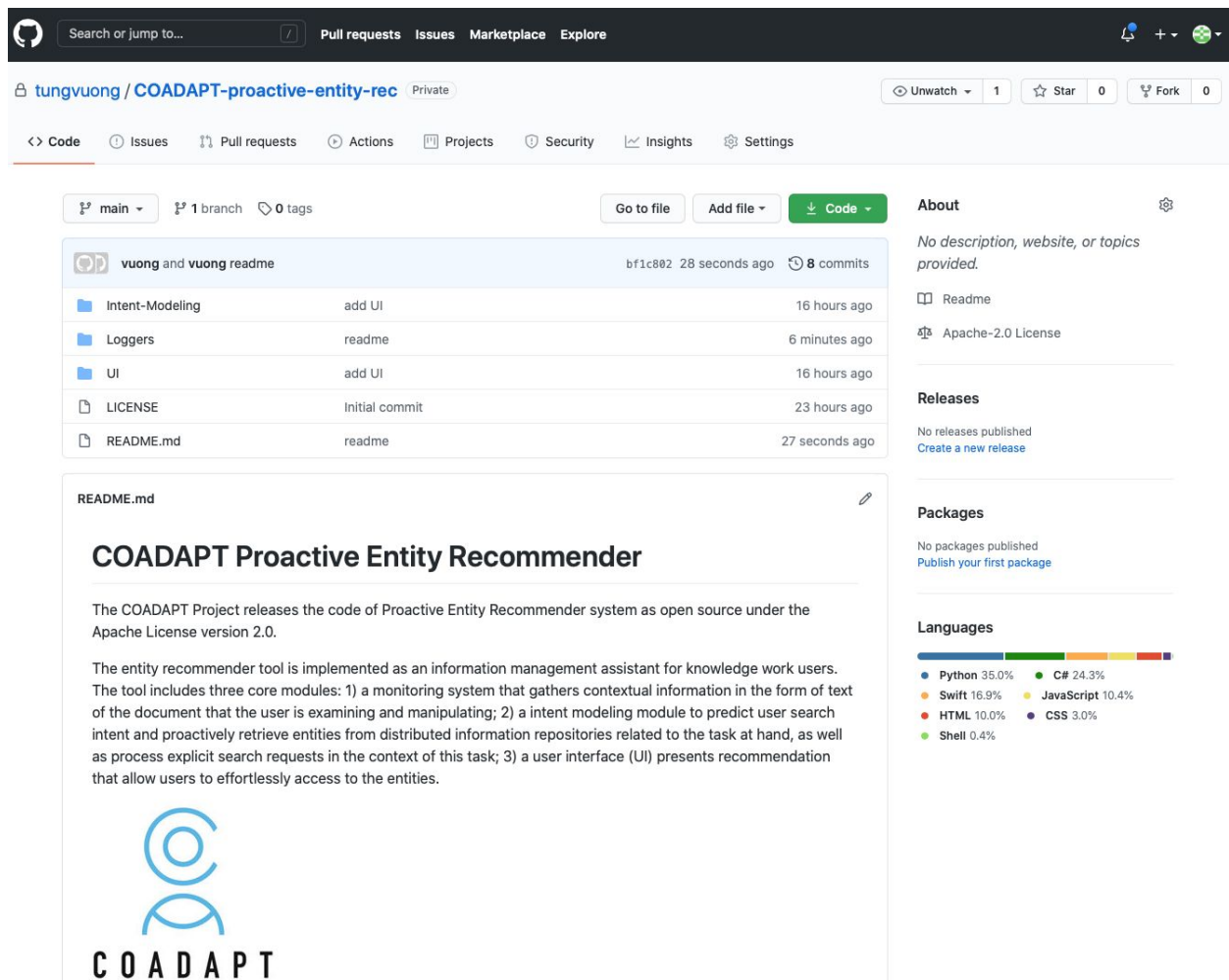
3 Open source release

3.1 Repository

The open source release of the proactive entity recommender tool is hosted on Github as a public project under the Github organization of University of Helsinki, the partner responsible for building the software can be found at:

<https://github.com/tungvuong/COADAPT-proactive-entity-rec>

A screenshot of the Github repository is shown in Figure 1



The screenshot displays the Github repository page for `tungvuong / COADAPT-proactive-entity-rec`. The repository is private and has 1 branch (main) and 0 tags. The file list shows the following structure:


File	Commit Message	Time Ago
Intent-Modeling	add UI	16 hours ago
Loggers	readme	6 minutes ago
UI	add UI	16 hours ago
LICENSE	Initial commit	23 hours ago
README.md	readme	27 seconds ago

The README.md file content is as follows:

COADAPT Proactive Entity Recommender

The COADAPT Project releases the code of Proactive Entity Recommender system as open source under the Apache License version 2.0.

The entity recommender tool is implemented as an information management assistant for knowledge work users. The tool includes three core modules: 1) a monitoring system that gathers contextual information in the form of text of the document that the user is examining and manipulating; 2) a intent modeling module to predict user search intent and proactively retrieve entities from distributed information repositories related to the task at hand, as well as process explicit search requests in the context of this task; 3) a user interface (UI) presents recommendation that allow users to effortlessly access to the entities.



The software release id documented in a comprehensive README.md file together with the installation instructions are included in the repository.

3.2 Proactive Entity Recommender tool

The tool includes three core modules that are described below.

- *Loggers or monitoring systems*: are developed under two versions; Mac OSX version using Swift programming language and Windows OS version using C# programming language. The main functions of the loggers is to collect user logs in the operating systems consisting of document access, application usage, and content of a document in a given application the user is currently manipulating/examining. To build the loggers from the code, you need to open the projects in XCode (for MacOSX version) and Visual Studio 2017 and above (for Windows OS version).

- *Intent Modeling module*: is built using python. The module requires the following pre-installed libraries: python, gensim, redis, numpy, and urllib. The module automatically processes input from the loggers, transforms the content of the document the user is manipulating into a query and proactively retrieves task-relevant entities.

- *User Interface module*: is built as a Web application using Javascript, html, and css. The module presents the user with recommendation and a common action for the entity in the form of a button they can press. The user can click on the button labeled as an application and a document, or use a topic as a query to the logs. The aim of this module is to make it effortless to access and use the entities. The User Interface does not need installation, but it can be opened using any Web browsing software directly.

4 License

We aimed at a permissive license for the release and chose Apache License version 2.0, allowing any use, commercial or not, of the software. We chose this over the MIT license, since Apache's more explicit wording is more liked by lawyers. We discarded the GPL licenses since we aim at allowing commercial use of the platform software.