An AI-assisted decision making system for thyroid nodule classification
Meetings Logbook

University of Reading

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1 Brief Table

29/09/2020	Initial comments on PID
6/10/2020	Final Comments on PID (title)
13/10/2020	Literature report and setting goals
20/10/2020	Comments on the literature report/Are the DDIT a suitable dataset?
27/10/2020	First results, DDIT problems and solutions, next target: TDID and formal classification process
03/11/2020	Week 6, No meeting was held
10/11/2020	Multiple objectives achieved, promising results, objective towards service/UI perspective set
17/11/2020	Not Perfomed Due to personal reasons
24/11/2020	Multiple objectives achieved, promising results, objective towards service/UI perspective set
1/12/2020	Not Performed/No updates, Develepoment of the platform continues on schedule
1/12/2020	No Meeting was held, because of no further updates. System develepoment continues on planwith a
8/12/2020	Minor delays in delivery of Frontend, developement resumes as normal, xmas objectives agreed, Top
11/01/2021	Frontend is ready, and the majority of the study for start developing backend is done, some reschedu
25/01/2021	Part of the backend is ready, develepoment continues on plan

2 Analytic Report

2.1 29/09/2020

Some advice on good report writing is given by the supervisor, Mrs. Liang. Additionally, some typos regarding the PID draft and some clarification on the various subsections of PID Template are also given. Some questions on context and expectations are also answered.

2.2 6/10/2020

Some final comments on PID regarding the title and the type of the system (web or standalone) are given. The PID is now at the 'Ready' state and gets approval from Mrs. Liang.

2.3 13/10/2020

Some information regarding the literature report is discussed, and short term goals are set. The first goal is to perform some minor transformations into the DDIT dataset and building the first classifier in python and various technologies. The study-first-write-later approach to this project is agreed. Under this approach, a period of non-rapid progress will exist. The aforementioned approach will allow the student to properly study the underlying subject and its mathematical formalism before he engages with the topic.

2.4 20/10/2020

Some guidance regarding the literature report and how it needs to be more 'research-based' was given. Additionally, we discussed the importance of proving that DDIT is a suitable database for our needs. Plan on how we will prove it based on a simple python-classifier. This goal is to be met by our next meeting.

2.5 27/10/2020

The first results regarding the viability of the DDIT dataset are discussed. The integration library is tested, and the first classifier using scikit-learn is implemented. 97/98 of samples can be successfully predicted using this approach. Some significant problems are also pointed out, as the inconsistency of the dataset in certain areas and the very few valid points that can be used. The fact that maybe more datasets are needed is pointed out. The next target is defined. Next week, the TDID dataset needs to be tested, and the formal classification process needs to be followed, splitting our data points in an 80-20% setup.

2.6 03/11/2020

Week 6, No meeting was held.

2.7 10/11/2020

Opening, the results of the two previous weeks are being presented.

- Integrate TDID into the codebase
- 80-20 setup : 75-80 %accuracy
- Study : Complete Revision of : Probability and Statistics
- Progress on the topics study
- 5 papers found, studied, and added in literature report
- TIRADS idea, multiple labels classification. Is it viable?

After the initial presentation, some feedback in the proccess is given, and the next objectives are set, namely

- Try different classifiers ,variance of with parameters, compare results
- Multiple label classification. Compare results
- Introduction of complex image filters. Compare results
- Paper prototype, what are the features that we want to support?
- Define a draft of Use cases, Interactions
- Service perspective of the project, maybe a mock of UI
- What are the end users?

2.8 17/11/2020

No meeting was held due to personal reasons

2.9 24/11/2020

What objectives have been completed?

- Try different classifiers ,variance of with parameters, compare results(NO)
- Multiple label classification. Compare results(NO)
- Introduction of complex image filters. Compare results(NO)
- Paper prototype, what are the features that we want to support?(YES)
- Define a draft of Use cases, Interactions(YES)
- Service perspective of the project, maybe a mock of UI(YES)
- What are the end users?(YES)

Some notes from the supervisor.

- Paper prototype:align with the universitys report template
- Define a draft of Use cases, Interactions :Write for those in the report
- Service perspective of the project: Architecture okay, create a mini presentation for the doctors, we need feedback
- What are the end users: only hospitals, agreed :)

Next time objectives

- Align with the universitys report termplate
- mini presentation
- write about the user interactions
- write about the softwares architecture in the report
- minimal functional version of the software
- (carryover) Try different classifiers ,variance of with parameters, compare results
- (carryover)Multiple label classification. Compare results
- (carryover)Introduction of complex image filters. Compare results

2.10 1/12/2020

No Meeting was held, because of no further updates. System develepoment continues on plan with a demo scheduled for the next meeting

2.11 8/12/2020

Objectives

- (1)Align with the universitys report termplate(DONE)
- (2)mini presentation(To be completed)
- (3)write about the user interactions (DONE)
- (4)write about the softwares architecture in the report(DONE)
- (5)minimal functional version of the software(In progress)
- (6)(carryover) Try different classifiers ,variance of with parameters, compare results (Postponed)
- (7)(carryover)Multiple label classification. Compare results(Postponed)
- (8)(carryover)Introduction of complex image filters. Compare results(Postponed)

Because of university deadlines, the develepoment of a minimal functional version of the software is postponed untill 22th of december. Presentation to be completed by the next meeting, Tasks (1),(3),(4) are completed and tasks (6),(7),(8) are postponed untill next year. Top priority, the delivery of the frontend for the next few weeks.

2.12 11/01/2021

Things Achieved on christmas

- minimal functional version of frontend

Frontend is ready, and the majority of the study for start developing backend is done. for the next few weeks the first microservice(backend-1) will be developed. With the new scheduling, tasks(6),(7) and (8) will be postponed untill after the end of the develepoment of backend-2.

2.13 25/01/2021

Part of the backend is ready, develepoment continues on plan,20 Tasks are complete, demo of the following

- Login System
- Signup System
- Profile Endpoint
- Django endpoint
- Heroku deployment

- Split into multiple projects for ease of use and proffesionalism

The following plan was aggreed

- 20-30 Jan: Backend Microservice 1 (Information) + Migration FE/BE
- 1-10 Feb: Backend Microservice 2 (Task)+Migration
- 10 Feb-15 March: Study of machine learning patterns + University Deadlines
- 15 March - 15 April: Complex models,image filters+prediction focused period
- 15 April-20April: Presentation work and safety padding

2.14 01-02

- All the required functionality of Information Backend is ready(demostration performed),
- Part of FE-BE Migration is ready. Develepoment continues on plan
- Profile Section Implemented
- Notifications System Implemented
- Login System Implemented
- Nessesary study materials completed
- Support NINO on patients

Targets for next week

- Information Backend Ready
- Migration Complete

2.15 08-02