DP2 – SPRINT 3

REPORT

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1. Introduction

In this sprint we had to get in depth into the testing of Petclinic. In order to do so, we have learnt different types of tests throughout the theory lessons. In this report, we will try to capture all work carried out in this deliverable.

An important note to take into account when reading this report is that during this deliverable our work was a bit more individual than the previous sprint because in this one we didn't have to discuss implementation that much. However, we tried to keep track of all members' work.

During this sprint we have, as a group, worked a total of 120h 37min.

2. Development

2.1. Iván and Manuel

Following the planning we established in the previous deliverable, Manuel was in charge of Medicine and Prescriptions and Ivan was in charge of the Medical Record.

In the previous deliverable we had some problems caused by the dependencies of our US, luckily this time we had completely independent ones, so we were able to work from the start. As soon as the sprint started we worked in the US and their respective testing, finishing it in less than a week.

After that we decided to start with the UI testing and Cucumber. UI testing was tricky for both of us:

- Manuel had some errors exporting the code from Katalon Recorder (the scripts that clicked in the webpage didn't work as intended) and he investigated some alternative ways of finding the elements he need to click on.

- Ivan was, at first, confused with how Katalon worked, so he decided to investigate further how to get the results he wanted. Once he understood, the work became very straight-forward. One additional problem that arose was how to check a negative scenario for the deletion of a Medical Record, but after a bit of research it was solved without much trouble.

Cucumber was very different for both of us, Ivan finished with relative ease, but Manuel had lots of trouble making it work, firstly Eclipse had problems running the acceptance test profile (it seems that it was a problem with his eclipse because when it was merged it worked fine) and later the web browser wasn't opening. This was fixed by rebooting the pc.

E2E tests were easy to implement, with the only problem that arose being having to change some values due to not using mockup (some tests broke because they use values that didn't exist in the database). In the same vein, we finished database integration testing with little to none trouble.

According to the API Integration testing, Manuel had to search about how to include authentication headers and body content in order to test the petition of requesting a token to the service we integrated, but it was easy to find how to do it using the libraries we are using.

Finally, we made a meeting in order to check if everything worked and some errors were found. Manuel solved them with ease but Ivan had to work a little more. Almost all errors were either because of putting our work together or because using the same values in the database.

In general, we think we did a good job. One thing we should improve for the next deliverable is the passing of the job. We started very strong and made a lot of progress, but then came to a stop and focus in other subjects, until we got to work again and finished everything. It would be better if we put ourselves objectives week to week.

Iván's effort:

TASK DESCRIPTION	HOURS SPENT
US 009 Vet changes a pet's medical record	3h
Iván's US testing	3h 50m
Iván's UI testing	8h 30m
Iván's E2E & DB Integration Testing	40m
Ivan's Cucumber testing	2h 30m
Ivan's diagnose and fixing of errors	2h 50m
Writing this report	50m
Total	23h 10m

Manuel's effort:

TASK DESCRIPTION	HOURS SPENT
US 012 Adoption procedure	4h
Manuel's US testing	2h
Manuel's UI testing	9h 10m
Manuel's E2E & DB Integration testing	2h
API Integration Testing	3h 10m
Manuel's Cucumber testing	4h
Manuel's diagnose and fixing of errors	30m
Writing this report	50m
Total	26h

2.2. Álvaro

I have divided this sprint in three main workloads. The implementation of the remaining US, UI Testing and E2E Testing.

<u>Regarding US Implementation</u>

For this deliverable we had 7 US left, I was assigned with just one of them:

- US 010 User adopts a pet

The idea was not difficult, but in the middle of the implementation, a problem arose regarding adoptions. Yoana and Manuel had the dilemma of only allowing veterinarians to manage adoptions. Once a conclusion was found, my US was slightly changed so I had to spent more time with it. Nevertheless, the implementation was quick and without further problems.

<u>Regarding UI Testing</u>

At first it was a confusing task given that was my first time working with this kind of test. On the other hand, thanks to my team solving the dependencies task, having their code as an example and having Katalon Recorded it was quite easy at the end.

The features I implemented were:

- Vet manages interventions:

  - Positive case: A vet creates successfully an intervention that is listed in the correspondent page.

  - Negative case: Unsuccessful creation of an intervention due to wrong data.

- Vet manages visits:

  - Positive case: A vet creates successfully a visit that is listed in the correspondent page.

  - Negative case: Unsuccessful creation of a visit due to wrong data.

- Owner sees vet personal information.

  - Positive case: An owner is able to search for a vet and look his data.

  - Negative case: An user (non-registered) tries to look for a vet personal data.

Regarding E2E Testing

Given the fact that these tests ended up being very similar to the previous tests done to the controllers, it was not a challenge at all. The tests were finished in schedule and without any problems.

Controllers:

- Intervention controller
- Owner controller

Regarding Cucumber features

There were two main steps back during the implementation of the Cucumber tests.

The first one was the lack of knowledge about how Cucumber worked. That was translated into problems when running the tests and having to configure the build path each time I was working with them.

The second problem arose a few days after I finished the tests. For some problem we could not figure out, most of the test starting giving errors or failures messages, so everyone in the group had to work in our respective hot fixes.

At the end, the tests were finished and tested without more problems.

TASK DESCRIPTION	HOURS SPENT
US implementation	6h 36m
UI Testing	8h 40h
Advanced UI Testing + Cucumber	4h 32m
E2E + DB Integration Testing	2h 2m
Diagnosing and fixing errors	1h 52m
Writing this report	46m
Total	23h 42m

2.3. Diana

For this deliverable, I had to first fix the problems from previous sprint with US, regarding saving data in the database, and for this sprint, implement user stories regarding users having or not having access to different pages, which mostly was changing security configurations:

- US 018 Vet sees pets' visits
- US 023 Owner sees rehabilitation session
- US 024 Owner sees trainer's personal information

Regarding the testing part, UI testing was quite easy to understand, although I had some small problems with implementation, because in one test I had forgot to add the extended version of import, but I figured it out quite fast and everything went well then. While making UI tests, I understood that actually for one user story there can be quite a lot of UI tests, because sometimes users, that haven't taken part in programming or so, think a bit differently, and can perform actions that programmers haven't even thought of, so that could be a thing to improve, for myself. E2E testing didn't require very specific knowledge, as, for example, Cucumber tests, since the tests were very similar to controller tests done before.

The most challenging part was Cucumber tests, because it was a bit difficult to think of some negative cases. I had no complications with setting Cucumber and understanding how it works luckily. But in general, the difficulties were not that much of the tests themselves, but with executing them, because if one test fails, then other fail too, so sometimes I could not find the error that caused this problem. At first I could not get the html reports, but at the end I managed to set up that part too.

During this sprint I made sure again that testing part of a program is almost as important as the programming itself, because some problems with the code were discovered through tests, specifically, UI tests.

TASK DESCRIPTION	HOURS SPENT
US implementation	30min
US Fixes from previous US	4h
UI testing	5h
E2E + Advanced UI testing + Cucumber tests	8h 20min
Fixing testing errors	2h20min
Writing this report	30 min
Total	20h 40min

2.4. Yoana

During this deliverable we had 7 stories left to implement of which I was in charge of the following:

- US 025 Trainer sees pets' visits

It was very simple to implement it and test it as we had similar user stories implemented and tested in the previous sprint.

Besides the user story, I also had to do some UI testing. At first, it was a hard task to accomplish because I had a problem with the chrome driver. The problem consisted of the tests sometimes working and sometimes not. Before knowing that it was the driver's problem I thought that I had done something wrong while configuring some of the tests, so I decided to debug them. In debug mode all tests ran splendidly. After realizing that the problem was because of the driver, I had a conversation with the professor with how I could deal with that and he suggested that I changed to Mozilla. I tried it and with the new driver all UI testing was accomplished.

The next task I had to confront was the Cucumber features. I knew that they are the A+ of this sprint but the work I had to do was very alike, so I decided to do it right after the UI testing. To be able to work with Cucumber I had to add the specific dependencies and also, I downloaded the Cucumber plugin from Eclipse Marketplace, to edit the ".feature" files. I had one minor problem with Cucumber and it was because sometimes, the JUnit5 library mysteriously disappears from the project and I'm not able to execute the tests but after adding it, everything went well.

The last thing I had to do is the E2E tests and database integration tests. Those were very easy to make but I was stuck for a day or two before realizing that instead of spring-boot.run.profiles I had spring-boot:run.profiles. That was the only obstacle.

As an aside, I configured the project so that whenever Travis is making a build it uses a MySQL database instead of the database in memory.

Generally speaking, I think the work I have done was good and organized. I tried to start early in the sprint even though the first week and a half I didn't do much. I managed to finish everything a week or two before the deadline and in those spare days I revised and fixed some minor discrepancies. I still think though that the group itself is lacking communication and knowledge of other members' progress within the sprint.

The effort I put in each one of the tasks during this sprint is specified in the table below:

TASK DESCRIPTION	HOURS
US 025 Trainer sees pet's visits	30m
UI Testing	11h
Advanced UI Testing + Cucumber	4h 56m
E2E + DB Integration Testing	7h 42m
Diagnosing and fixing errors	2h
Writing this report	57m
Total	27h 05m