Aalborg University

P6 project:

Multi Project

4 sprints

Group: **sw607f14**
Room: **2.1.10**

Field of study: **Software**

Authors:
Johan L. Gregersen
Morten M. Jakobsen
Casper H. Laustsen
Hamun Munikiki

Supervisor:
Jinling Jiang

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Aalborg University
The Faculty of Engineering and Science
School of Information and Communication Technology (SICT)
Selma Lagerlöfsvej 300
9220, Aalborg Ø
Phone number: 99407228
http://www.sict.aau.dk

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Writers:

Johan L. Gregersen

Morten M. Jakobsen

Casper H. Laustsen

Hamun Munikiki

Advisor:
Jinling Jiang

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2.1 Introduction

We were working with Zebra during the first sprint. Zebra is now called Sequence in the GIRAF application. Sequence is an application that allows the guardians of autistic children, to present sequences of pictograms to an autistic child. This aids the autistic children in performing daily routines, which they would not be capable of without a visualization. The sequences made for the children are various, but could be e.g. a sequence for how to wash hands, how to put on outdoor clothing during winter to go to the playground, or how to behave during dinner when they sit and eat their packed lunch. The sequence application is a digital solution to an existing analog solution which they currently use in institutions in and near the city of Aalborg.

It was quite obvious, that the current solution is exhaustive. It was previously decided by a group of software students on 6th semester, to work on a digital solution. They created a first draft of the application that we a year later picked up and continued to work on. They had an application up and running, but had remaining issues and obstacles they did not have time to solve.

During the first sprint, we had a goal to solve the remaining issues and obstacles for the Sequence application. We focused on making the current application work instead of developing new features or creating additional functionality to the application. This was a common agreement among the software 6 students working on the multi-project

2.2 Project Management

We decided to use Scrum to manage our project. This meant that we held daily stand-up meetings to discuss what everyone was working on, how it was going and whether they needed something from the group to solve their assignment. Scrum required a product backlog to record the requirements to the product, those were decomposed into small issues. Scrum also required a sprint backlog, which held the issues planned for the current sprint. We used an issue-tracker called Redmine to manage this for the multi-project. We also used an internal group issue-tracker called AgileWrap, to keep track of the issues in the multi-project but also additional issues regarding research and so on. The issues from AgileWrap are not listed in this report.

We managed our sprint backlog for the first sprint ourselves, and for each issue recorded in the issue tracker we estimated the number of hours it would take to resolve the issue, and gave it a priority.

Figure 2.1: A pictogram binder with already constructed sequences

Figure 2.2: Pictogram containers and personal sequences for the children

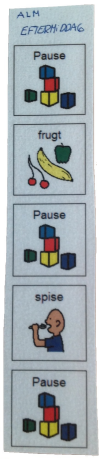

Figure 2.3: A sequence of pictograms made for eating an afternoon meal

2.3 Project Planning

We took part in status-meetings for the entire multi-project, which had the job of keeping the multi-project on track and make decisions for the project as a whole. During this status-meeting the length of the first sprint was decided. We used this length to calculate the amount of hours available to burn during the sprint, and saved it in our issue tracker. At the status-meetings the groups also agreed on a focus for the first sprint. It was decided that the focus should be on resolving known issues from last semester, and fix bugs that made the applications unable to function.

We ran over the issues in our issue tracker and decided which to include in the sprint backlog for the first sprint. This decision was based on the hours estimated to resolve the issue, the priority for the issue, and the focus for the sprint. We favored issues with urgent or high priority for the first sprint. We choose roughly as many estimated hours of issues for the first sprint, as we calculated available hours to burn.

2.4 Product Backlog

During the initial period of the first sprint, we analyzed the code and the report made last semester. This gave us insight in what we were going to work with, and we recorded their known issues and suggested future work. This was compiled down to a product backlog which we list below. The product backlog were made as a list of issues.

ID	Iced	Issues	Description	Es. hours

1	x	Syncronization with the Database	Work together with the Database group to correctly link Sequence with the database - making extracting and saving images easier.	32 hours
2	x	Updating a picture in sequence ->; no update in overview	When opdating a picture in sequence, the picture is not shown in the overview.	8 hours
3		Cancel and replace action function	Being able to mark a pictogram cancelled. Futhermore being able to replace pictograms in a sequence.	12 hours
4		Home button pauses sequence -> should destroy	When pressing the home button on the tablet, it should destroy the application, and not pause it. For example it would be confusing, to open from paused state, instead of opening into the overview.	8 hours.
5		Copying Sequences	Being able to copy sequences to other children incase of similar activities.	16 hours
6		Changing application name	Change the name from Zebra to something else.	1 hour
7		Marked pictogram not highlighted	When the pictogram is clicked it does not highlight.	8 hours
8		Child mode needs to be more intuitive	Child mode relies on scrolling right now - we need to make it more intutive e.g. marked activities/pictograms as done. Overall the flow of child mode needs to be reworked.	32 hours
9		Sequence does not look clickable	It is hard to see that you can click a sequence and choose to "open" it.	16 hours
10		Changing a sequence name is not intuitive	When naming a sequence it is hard to see that you can click on the "space" to name it.	8 hours
11		Analyzing TODOs in code	The TODO's are located in: Child (class), MainActivity and SequenceViewGroup - Note there can be several TODO's per file.	16 hours
12		Add sequence button placement is not intuitive	The "+" sign is wrongly placed.	16 hours
13		Resizing delete buttons on pictograms	The size of the deletebutton have to scale proportionally with the width of the PictogramView.	4 hours

14	x	Import temporary pictures into Sequence	Right now, no pictures are visible in the program right now.	4 hours
15		Original drag location flickers when rearranging	When dragging the location dragged from flickers when the animation is done. Comment from last semester: Seems to be depend on hardware. The old galaxy tab does not have this problem. Also seems to be worsened by rounded image corners.	32 hours
16		It is possible to make identical sequences for the same child	Should be fixed, maybe as a check vs name and order of pictograms.	8 hours
17	x	Solve TODO in SequenceViewGroup - Can child be bigger than parent?	It is currently unknown whether a child can be bigger than the parent space allowed. Blocked because no images are available yet.	2 hours
18		Child selected upon opening the program is not highlighted	Child selected upon opening the program is not highlighted - starts at the first child of the list but it is not highlighted.	2 hours
19	x	Zebra is installed with two app-icons	When installing the zebra-application, two icons are created. This is a launcher dependency issue.	16 hours
20		When a sequences is created it should have a return to overview button	When a sequences is created it should have a return to overview button, right now it's still in the sequence view.	8 hours

Table 2.1: This is a list of the issues we had in our product backlog going into sprint 1

2.5 Sprint Overview

2.5.1 Sprint Backlog

ID	Issues	Es. hours
2	Updating a picture in sequence -> no update in overview	8 hours
4	Home button pauses sequence -> should destroy	8 hours
6	Changing application name	1 hours
10	Changing a sequence name is not intuitive	8 hours
11	Analyzing TODOs in code	16 hours
14	Import temporary pictures into Sequence	4 hours
17	Solve TODO in SequenceViewGroup - Can child be bigger than parent?	2 hours
18	Child selected upon opening the program is not highlighted	2 hours
19	Zebra is installed with two app-icons	16 hours
20	When a sequences is created it should have a return to overview button	8 hours

Table 2.2: This is a list of the issues we included in our sprint backlog during sprint 1

2.5.2 Resolved Issues

At the end of sprint 1, the following issues from the sprint backlog were resolved.

ID	Issue	Es. hours
6	Changing application name	1 hours

Table 2.3: Issue ID 6

This was a trivial task of changing the application name in the AndroidManifest of the project.

ID	Issue	Es. hours
10	Changing a sequence name is not intuitive	8 hours

Table 2.4: Issue ID 10

Changing the name of a sequence was previously done by clicking on the title text, but it was not obvious that it was in fact editable. The issue was solved by adding a button which programatically places the cursor in the textfield and popping up the virtual keyboard.

ID	Issue	Es. hours
11	Analyzing TODOs in code	16 hours
17	Solve TODO in SequenceViewGroup - Can child be bigger than parent?	2 hours

Table 2.5: Issue ID 11 and 17

Solving TODO's of the previous team who worked on the project was one of the more difficult tasks. They were usually very unclear, examples being "TODO ???" and "this is ridiculous". With statements being that vague and seemingly not meant for other teams to understand, made this a time expensive task. The estimate of 16 hours however fit surprisingly well for both analyzing and solving the issues. This is partly due to some of the TODO's seemingly representing a lack of understanding for the code. These TODO's could thus just be removed. Issue 17 was created as a seperate task because it was difficult to troubleshoot, but it was found to that code already existed to ensure that a child could not be bigger than a parent.

ID	Issue	Es. hours
14	Import temporary pictures into Sequence	4 hours

Table 2.6: Issue ID 14

While Sequence was runnable from the beginning of the sprint, it had no pictograms available in anyway. While there at the end of the sprint still was no database connection, having some local images to use in the application was desired. It was discovered that one of the previous groups had hardcoded paths and names for pictograms that we had no access to. Pasting new images with matching titles on the hardcoded path (The SD card of the device) allowed us to have images to work with in the application.

ID	Issue	Es. hours
18	Child selected upon opening the program is not highlighted	2 hours

Table 2.7: Issue ID 18

This issue was looked into but turned out to be difficult to solve. However, while it was in fact never fixed, it also became a non-issue due to new requirements. These specified that the child list where the issue occurred should not be available from within Sequence. Retrieving childs should be done from the launcher application. The issue is therefore closed.

ID	Issues	Es. hours
19	Zebra is installed with two app-icons	16 hours

Table 2.8: Issue ID 19

Debugging why the application was installed twice upon compiling was another hard task. (#19) This was one of the first issues we attempted to solve, and lack of knowledge about Android made this simple fix a time-wise underestimated task. We did not immediately realize that the issue was not within the Sequence project, but one of its dependencies. Furthermore, another group was working simultaneously on the same issue, which was not discovered in the process. This happened because the time was spent trying to understand the issue. At that point it was a simple fix, and it was not before then it could be discovered that it was the same issue the other group was trying to solve.

ID	Issue	Es. hours
20	When a sequences is created it should have a return to overview button	8 hours

Table 2.9: Issue ID 20

When displaying a created sequence it was not apparent how the user was able to return to the overview. This was solved by adding a button to allow the user to return by pressing the button.

2.5.3 Remaining Issues

The following is the remaining issues not completed within the timeframe for sprint 1.

#2: This was an issue that we did not look into, due to running out of time. The reason this particular issue has been pushed back in favor of others was both because it was not a high priority issue and because having pictograms in Sequence (See issue #14) was a prerequisite.

#4: According to the previous report on Zebra, [1] the home button caused an issue. After using the button, the guardian found it confusing when reopening Sequence, it resumed at the previous state of the application. It was preferred that the application should reopen as if it was just launched. This issue was looked into and an attempt to solve it was made by destroying the application when the home button was pressed. This however caused a new bug where Sequence would be destroyed after accessing PictoSearch from the application. The proposed solution was thus discarded.

2.6 Sprint Evaluation

Requirements

Chapter 3

Sprint 2

3.1 Introduction

In sprint 2 we focused mainly on improving the design of Sequence. This means we also had to arrange meetings with other groups to discuss the user interface design of our applications. These other groups are the groups that have a similar interface as ours. In this case we arranged meetings with Tortoise (also known as Lifestories), and an iOS group, which were developing all the applications for the Apple smartphone. This chapter will discuss the process of organizing with the other groups, how we did it, what problems occurred, and how we solved them. Another main task in this sprint for us was to synchronize with the internal database, and store sequences for each child onto the database. This was also discussed with the Lifestories group and iOS group. After the discussion, we gave our requirements for the database to the database group.

3.2 Product Backlog

3.3 Sprint Overview

3.3.1 Sprint Backlog

3.3.2 Resolved Issues

3.3.3 GUI change

now we just do it

THIS IS WHERE WE DESCRIBE THE USE OF THE GDIALOG CUSTOMIZABLE CLASS.

```
1
2   public class MyDialog extends GDialog {
3
4       public MyDialog(Context context) {
5
6           super(context);
7
8           this.SetView(LayoutInflater.from(this.getContext()).inflate(R.
                layout.exit_sequence_dialog,null));
9
10          GButton saveChanges = (GButton) findViewById(R.id.save_changes);
11          GButton discardChanges = (GButton) findViewById(R.id.
                discard_changes);
```

```
            GButton returntoEditting = (GButton) findViewById(R.id.
                return_to_editting);

            TextView returnHeadline = (TextView) findViewById(R.id.
                return_sequence_headline);
            TextView returnDiscription = (TextView) findViewById(R.id.
                return_sequence_discription);

            saveChanges.setOnClickListener(new GButton.OnClickListener() {

                @Override
                public void onClick(View v) {
//                      SequenceActivity.this.saveChanges();
                }
            });

            discardChanges.setOnClickListener(new GButton.OnClickListener()
                {

                @Override
                public void onClick(View v) {
                    finish();
                }
            });

            returntoEditting.setOnClickListener(new GButton.OnClickListener
                () {

                @Override
                public void onClick(View v) {
                    dismiss();
                }
            });
        }
    }
```

THIS IS WHERE WE DESCRIBE THE USE OF THE GDIALOG NON CUSTOMIZABLE CLASS GDIALOGMESSAGE.

now we just do it

```

    public void showReturnDialog(View v) {
        GDialogMessage returnDialog = new GDialogMessage(v.getContext(),
                R.drawable.ic_launcher,
                "Afslut Sekvens",
                "Du er ved at afslutte sekvensen",
                new View.OnClickListener() {
                    @Override
                    public void onClick(View v) {
                        finish();
                    }
                });


        returnDialog.show();
    }
```

3.3.4 Remaining Issues

3.4 Sprint Evaluation

Chapter 4

Bibliography

[1] "Giraf: Zebra," student report, Aalborg University, 05 2013. 14

Part I

Appendix