TU/e

Project Fingerpaint

Review-0.4

Review document

Authors:
Tessa Belder (0739377)
Lasse Blaauwbroek (0749928)
Thom Castermans (0739808)
Roel van Happen (0751614)
Benjamin van der Hoeven (0758975)
Femke Jansen (0741948)
Hugo Snel (0657700)

Junior Management:
Simon Burg
Areti Paziourou
Luc de Smet

Senior Management:
Mark van den Brand, MF 7.096
Lou Somers, MF 7.145

Technical Advisor:
Ion Barosan, MF 7.082

Customer:
Patrick Anderson, GEM-Z 4.147

June 23, 2013

Abstract

This document contains a collection of all review documents for several documents of FINGERPAINT that have to be created and delivered for the Software Engineering Project (2IP35). The review document is based on the conventions listed in the Software Configuration Management Plan (SCMP) [1].

Contents

Document Status Sheet

General

Document title:	Review document
Identification:	Review0.4
Author:	Tessa Belder, Roel van Happen, Benjamin van der Hoeven, Femke Jansen, Hugo Snel
Document status:	URD feedback up and to version 0.3

Document history

Version	Date	Author	Reason of change
0.0	24-Apr-2013	Tessa Belder Femke Jansen	Included internal reviews on URD-0.0.
0.1	26-Apr-2013	Benjamin van der Hoeven Roel van Happen Hugo Snel	Included internal reviews on URD-0.1.
0.2	2-May-2013	Roel van Happen Hugo Snel	Included internal reviews on URD-0.2.
0.3	2-May-2013	Femke Jansen	Included external reviews on URD-0.2.
0.4	2-May-2013	Benjamin van der Hoeven Femke Jansen	Included internal reviews on URD-0.3.

Chapter 1

Introduction

1.1 Purpose

This document contains the collection of all review documents, both internal reviews and external reviews. It is used for documentation and later reference.

1.2 List of references

[1] Group Fingerpaint, "Software configuration management plan," *SEP*, 2013.

[2] Group Fingerpaint, "User requirements document," *SEP*, 2013.

1.3 Overview

Each chapter corresponds to one document and contains all the feedback on this document. The chapters are organized according to the newest version of each of the documents; we distinguish between internal and external reviews and will also list the name of the person or group of persons that provided the feedback.
The following deliverables are reviewed in this document:

- User Requirements Document [2] (chapter 2)

Chapter 2

URD

2.1 Title page

2.1.1 External reviews

Junior Management

Location/reference	Category	Remark
Version 0.3		
title page	Missing	Maybe include student numbers and room numbers for staff (as in other URD's).

Technical Advisor

Location/reference	Category	Remark
Version 0.3		
title page	Missing	The advisor is not just an advisor: more explicitly, he is a technical advisor.

2.2 Abstract

2.2.1 External reviews

Junior Management

Location/reference	Category	Remark
Version 0.3		
Abstract	Missing	State that this document was based on discussions with your client and that it conveys their wishes.

Technical Advisor

Location/reference	Category	Remark
Version 0.3		
Abstract	structure	Change "how it should function and in what environment it should function" to "how and in what environment it should function".

2.3 Chapter 1

2.3.1 External reviews

Junior Management

Location/reference	Category	Remark
Version 0.3		
1.1	Structure	You might consider rephrasing the sentence "All of the listed requirements". We just assure that some requirements will be implemented, but not all requirements.
1.1	Other	The sentence "mixing on a mobile device" implies that you are bound to specific hardware. The application should be cross-platform.

2.3.2 Internal reviews

Tessa Belder

Location/reference	Category	Remark
Version 0.1		
1.3	Missing	URD is missing from the list.
Version 0.3		
1.2	Typo	'developed by Group Fingerpaint group' – 2x 'group'.
1.2	Incorrect	'Users can define the initial concentration' should be 'can define the initial concentration distribution'.
1.3.1	Missing	'iPhone' should be added here, since it is used in section 2.2.2.
1.3.2	Other	'TBC' and 'TBD' can be removed from this list, as they aren't used in this document.
1.3.2	Missing	'PC' shoudl be added here, since it is used in section 2.2.2.
1.5	Missing	The appendices aren't mentioned here, and they should be.

Femke Jansen

Location/reference	Category	Remark
	Version 0.0	
abstract	missing	The abstract is very short and could use some more information; see the template for scmp.pdf as an example. You could mention in the abstract that this document is part of the SEP project and what can be found in this document (a very brief description).
1.1	Structure	I would change the beginning to this sentence to "This document", because you already mentioned in the abstract that this document is the URD.
1.2	Question	I believe that the client mentioned that the original goal was to find the optimal mix as soon as possible. Should we mention that here as well?
1.5	Typo	"remainder" should be "remaining" in "The remainder chapter"
1.5	Structure/layout	I would change the layout/text in the list to something like: * The relation to other systems (2.1) * The main capabilities (2.2) * etcetera. That would make the list more readable, I believe.

Hugo Snel

Location/reference	Category	Remark
	Version 0.3	
1.1	Typo	"full consent"; 'full' is kind of weird. You consent or you don't.

2.4   Chapter 2

2.4.1   External reviews

Junior Management

Location/reference	Category	Remark
	Version 0.3	
2.1	Inconsistent	In this paragraph you talk about mobile devices, while it should be cross-platform.

Location/reference	Category	Remark
2.1	Other	The sentence "after which output should be shown on the screen" is unclear and ambiguous.
2.1	Other	You talk about sending constraints to the server as a black box, but I think there's too much detail about the black box and how it will work. Just say it is present and you leave the complicated computations to them and you do the visualizing and formatting.
2.2.1	Incorrect	The system should not be able to simulate the flow, as you just said that you leave the computations to the server. You will only visualise the results of these computations.
2.2.1	Other	The sentences "given some constraints. There are a number of constraints to be specified" are redundant, as you already said that there are some constraints in the first sentence.
2.2.1	Other	The sentence "can be specified by tapping on and dragging over the screen" is unclear and ambiguous. What you're actually doing is making an app that can specify these constraints (it should be noted somewhere before additional capabilities).
2.2.2	Missing	From the sentence "When the initial parameters have been set, the computations are offloaded to a server" it is not clear what your capabilities are. Your capability is sending these to the server and retrieving results.
2.2.2	Other	"should be exportable to ... .png or .pdf" is very specific. Maybe there's a better way you didn't think of yet. Here you should probably say: "We need to be able to export it to a standardised animated format (solution space rather than problem space).
2.2.2	Missing	It is in general not clear that we can actually visualise the returned results.
2.3	Other	You use a lot of pretty words and long sentences, but actually you're not really saying what you want to say. For instance, just say that you assume that the server computation does not take too long and thus visualisation can be handled quickly. That clarifies things much more and the sentences also get shorter.

Location/reference	Category	Remark
2.4	Missing	This section is more for different stakeholders. Although in this case, I feel there is actually only one. Still, it might be beneficial to describe WHO your user is (in terms of position, not person) on top of what this person can do.
2.4	Missing	In the sentence "after the application has sent these off to the server, should be able to view the results" it is unclear which results you're talking about.
2.5	Question	You say "intermediate results are sent back to the mobile device for displaying", but is this really the case? Does the server not simply finish a step and then send it back, then calculate the next step? "While solving, return some stuff" is a bit vague.
2.5	Missing	Maybe you can make one of those domain models, even though it will be small.
2.6	Question	"Therefore, we assume this server always answers within a few seconds", but you should also have some basic error handling at least, right? I think it is not a good assumption that the server ALWAYS responds within a few seconds.
2.6	Missing	What about the assumption that the server in fact gives a correct solution? Or the assumption that the mobile device doesn't lose connection to the internet?

Technical Advisor

Location/reference	Category	Remark
		Version 0.3
2.1	Question	In the sentence "we are to use it as a black box to which we can send constraints and a vector", it is unclear what the vector is. Is this an implementation detail? If this is the case, it should not be mentioned in this document
2.2.1	Question	What do you mean with the sentence "It is possible to both specify ..."? Perhaps you can insert a few comma's in this sentence or you can re-write it to make it more clear.
2.2.2	Missing	In the sentence "A history of past simulations ... to compare previous runs with the current", I would change "current" to "current run", because now it is unclear what "current" is.

Location/reference	Category	Remark
2.3	Inconsistent	"The user interface ... without much hassle" contains both present time and past time writing. Try to stick to writing in one particular time.
2.3	Structure	In general, I see the word "so" quite often, but try to use some other words for "so" as well.
2.5	Question	Where does "parameters described above" refer to? It doesn't appear to be in the previous paragraph in this section, so try to be more clear in which section you described these parameters.
2.6	Typo	In "As a mentioned", "a" should be "we", I believe.
2.6	Missing	In the sentence "Therefore, we assume this server..." I would add the word "that", to obtain the sentence "Therefore, we assume that this server...".

2.4.2   Internal reviews

Tessa Belder

Location/reference	Category	Remark
Version 0.1		
2.2	Missing	The sentence "The third parameter to be specified is " is unfinished.
2.2.1	Structure/Layout	The sentence "It is possible to both specify an entire protocol consisting of multiple wall movements, and to only execute one step at a time." sounds like you can do two things at the same time. I would change it to: "It is both possible to specify an entire protocol consisting of multiple wall movements, and to only execute one step at a time."
2.2.1	Missing	There is no information included about the parameter '#steps' which defines how many times the defined mixing protocol is executed.
2.2.1	Incorrect	"The fourth parameter is the initial concentration of the fluids," should be: "The fourth parameter is the initial concentration distribution of the fluids,"
2.2.1	Missing	"If desired, it is also possible to load an existing initial distribution." This should be "If desired, it is also possible to load an existing or predefined initial concentration distribution."
2.2.2	Structure/Layout	"When the final result has been computed, this result is of course sent back to the mobile device" Sounds a little weird, I would leave the 'of course' out."
2.2.2	Incorrect	"to easily sharable formats, such as .png or .pdf" We changed this to vector graphics.
2.2.2	Structure/Layout	"or to start over with the original initial concentration distribution" You can start over with 'a new' initial concentration distribution, not with 'the original' initial concentration distribution.
Version 0.3		
2.1	Incorrect	'to compute the flow of the fluids' – The server doesn't compute the flow, it computes the new concentration distribution.
2.1	Incorrect	'for the flow of the fluids' – Again, not the flow of the fluids, just the resulting concentration distribution.
2.1	Incorrect	'can compute the flow of the fluids' – The same as above.

Location/reference	Category	Remark
2.2	Incorrect	'able to compute the flow of the fluids' – Same as above.
2.2.1	Incorrect	'The fourth constraint is the initial concentration of the fluids' – Should be 'initial concentration distribution of the fluids'.
2.2.2	Incorrect	'the computation of the flow' – Should be 'the computation of the new concentration distribution'.
2.2.2	Incorrect	'via a two-dimensional image of the fluid distribution' should be 'of the fluid concentration distribution'.
2.2.2	Incorrect	'It should also be possible to save entire runs as an animations'–¿ this is a 'could' and not a 'should'.
2.2.2	Incorrect	'or to start over with the original distribution' –¿ Actually this is not always possible; you can reset it to an entire white distribution, or, if you've saved the original one, you can load it again.
2.3	Incorrect	'to quickly try out new ideas for mixers' –¿ You can't try a new mixer, you can try new protocols / new initial concentration distribution.
2.3	Incorrect	'the server can compute the flow of fluids' –¿ Same mistake again.
2.3	Incorrect	'when the flow has been computed' –¿ Again, flow isn't computed.
2.3	Incorrect	'As mentioned before, it should be possible... ...and the resulting performance metric' –¿ You can't export mixing runs, you can only save them within the application. You can only export the image of the final concentration distribution, the performance graph, and the animation of the mixing run.
2.4	Incorrect	'to quickly try out ideas for mixers' –¿ Can't try out a new mixer, only new protocols / initial concentration distributions.
2.4	Incorrect	'The user can change the shape and characterisitics of the mixer' –¿ Well maybe later, but these are options to be included later, not the main idea of the application.
2.5	Incorrect	Figure 2.1: arrows 3, 4 and 5 talk about flow, should be concentration distribution.
2.5	Incorrect	Second assumption talks about flow. Again not correct.

Roel van Happen

Location/reference	Category	Remark
Version 0.2		
2.2	Inconsistent	Third parameter is not exactly a parameter for the algorithm.
2.4	Typo	"The user can then store these results to reference later" → "The user can then store these results for reference later."

Location/reference	Category	Remark
Version 0.3		
Appendix B, Use case B.20 & B.21	Missing	Navigation to the history interface is missing in both use cases

Femke Jansen

Location/reference	Category	Remark
Version 0.0		
2.2 (description)	Missing	In this paragraph, the "movement of the walls" is mentioned, but we didn't mention the "walls" as a mixing protocol in earlier sections. Perhaps changing it to something like this will clarify it a bit more: ".. given some constraints and initial concentration of the fluids. The constraints are described through a mixing protocol and consists of a sequence of transformations that are applied to the selected geometry. In case of a rectangular geometry, for instance, the sequence consists of 'wall movements': the fluid can be manipulated by moving an upper and lower wall for a specified amount of steps."
2.2	Structure	I would explain the example as a new sentence, instead of placing it within brackets in the current sentence. In general, using long sentences within brackets can decrease the readability of the text.
2.3	Missing	A third parameter is started to be explained, but the sentence is not finished. "The third parameter ..."
2.4	Structure/Layout	I would change this to "As mentioned before". Now, it seems like the focus lies on the "being documented" part, whereas you probably only want to say that you mentioned this earlier in this chapter.

Hugo Snel

Location/reference	Category	Remark

Location/reference	Category	Remark
Version 0.1		
2.1	Other	"Should be provided to" → "allows to". We're not provided with any interface
2.1	Inconsistent	"initial details" → initial concentration distribution. This is consistent with chapter 3.
2.2	Inconsistent	"is the protocol for moving the mixer"→ "is the protocol for moving the geometric component"
2.4	Typo	"results to reference later" → "results for later reference"
2.5	Structure/Layout	"Apple iPhones and Android phones or tablets" → "Apple and Android mobile devices"
2.5	Other	"the hard work of computing the matrices" → "the hard work of computing". The fact that matrixes are used is an implementation detail that the reader should not be aware of in "Environment description".
2.5	Structure/Layout	"will be distributed to" → "send to". You distribute to >1 servers , you send it to 1 server.
Version 0.3		
2.1	Typo	"the user should be able to specify initial parameters." Can be interpreted as 'the user can define new initial parameters'
2.1	Other	"intuitive and attractive user interface." Don't call it 'attractive', hard to quantify.
2.1	Typo	"where it can be visualised." –> "Will be"
2.1	Typo	"is impossible to comfortably use this solution on a mobile device." Is it possible at all? If not, don't emphasize on 'comfortable', and leave it out.
2.2.1	Incorrect	"is fixed for the entire protocol.". It's not fixed, the user should be able to change it for each step.
2.2.1	Inconsistent	If you mean 'change D in the positive direction' type "+D". Just 'D' looks like you mean the variable D, instead of D in the positive direction.
2.2.1	Inconsistent	"The fourth constraint is the initial concentration of the fluids." –> Initial concentration Distribution

Location/reference	Category	Remark
2.2.2	Other	You talk about the "Client's server", "client device". The case of c is the only difference. This is not very clear for a non-computer scientist.
2.2.3	Other	"easy to share the visualised results". Don't call it 'easy', hard to quantify.
2.2.3	Incorrect	"flow of fluids reasonably". It does not compute flow, it computes the resulting concentration distribution. Idem for other occurrences of "Flow"
2.2.3	Other	"We will concentrate on mobile devices." –> "Our main focus is mobile devices"
2.2.3	Inconsistent	Initial distribution –¿ Initial concentration distribution
2.2.3	Inconsistent	the resulting fluid distribution" –> Concentration distribution. Idem for other occurrences of "fluid distribution"
2.2.5	Incorrect	"The main device for the user interface is the mobile device." User interface –> FINGER-PAINT application
Figure 2.1	Incorrect	Change to-> 3. Computes resulting concentration distribution. 4. Send resulting concentration distribution. 5. Visualise resulting
Figure 2.1	Missing	Missing a label "User" below the stick figure
2.6	Question	1st bullet; Is there really already a connection? I think we need to make this ourselves. What we assume is that both sides(=devices) have access to the internet to allow for internet protocol communication.
2.6	Question	2nd bullet; Do we assume the server already has an internet protocol to communicate? I think we need to make this ourselves.

2.5 Chapter 3

2.5.1 External reviews

Junior Management

Location/reference	Category	Remark
Version 0.3		

Location/reference	Category	Remark
3	Incorrect	The sentence "any requirements following from further requests will be added here" is not correct: we won't just add any requirements that are requested. Also, after signing the URD, there should not really be any more changes/additions.
3.1	Structure	It might be nice to have more hierarchy for the requirements (as in the review checklist: coherent groups).
3.1	Inconsistent	Formats are named in these constraints, while others are named in previous chapters (.SVG here, .GIF there). Try to make this consistent.
CPR03 & CPR04	Other	Maybe you can split these requirements, so you can always try to achieve one of them.
CPR06 & CPR17	Other	Why do you use a list? This seems like a solution space instead of a problem space.
CPR09 & CPR18	Question	What does "reset" mean here?
CPR10	Other	This requirement is ambiguous: can he save by drawing or can he save a drawing?
CNR02 & CNR03	Other	Maybe you can split-up the browsers, so you can do them individually.
CNR07 & CNR08 & CNR09	Other	We cannot ensure that this is ALWAYS the case. Maybe the "mean/average access time" is a better term.
CNR10	Other	The sentence "should be easily extendable" is ambiguous. Maybe there are more wishes in the Software Engineering sense, such as easily extending mixing patterns, easily extending it for different platforms, easily scaling things (but perhaps with a lower priority).

Technical advisor

Location/reference	Category	Remark
Version 0.3		
CPR04	Question	You mention that the "user can define an initial concentration distribution with black and white", but what are these "black and white" exactly? Do they refer to colors?
CPR21	Typo	"an image of the end result" should be "end-result".
CPR24	Question	What do you mean in the sentence "an animation of applying the mixing protocol"?
CPR29	Typo	"mixng performance" should of course by "mixing performance", I assume.

2.5.2 Internal reviews

Tessa Belder

Location/reference	Category	Remark
Version 0.1	
3.1 & 3.2	Missing	Explanation is missing about what exactly capability/constraint requirements are.

Roel van Happen

Location/reference	Category	Remark
Version 0.2		
CPR 5 & 7	Question	Isn't 7 an extension of 5?
CPR 8	Other	Vague
CPR10	Incorrect	Isn't 6 supposed to be 9?
CPR13	Incorrect	Isn't 9 supposed to be 12?
CNR 10	Inconsistent	It has priority 'should have', while the interface is required for this function has priority 'could have'.

Femke Jansen

Location/reference	Category	Remark
Version 0.0		
3.1	Typo	"off" should be "of" in "and constraints off the application ..."
3.1 (CPR 10 & 13)	Incorrect	CPR10 should refer to CPR09 and CPR13 should refer to CPR12.
3.2	Incorrect	The order/IDs of the constraint requirements are incorrect, as we have duplicate IDs. All IDs must be incremented by one starting from the CNR13 I mentioned. starting from CNR13 'should have'

Benjamin van der Hoeven

Location/reference	Category	Remark
Version 0.3		

Location/reference	Category	Remark
3	Missing	We have chosen not to specify interfaces, because we want to have options when designing these. Also, this is more of a developer detail than a customer need, as the customer does not really care how exactly the interfaces look, as long as they are functional and intuitive. However, none of this is documented in the URD.
3.1	Missing	**CPR23** should reference a constraint that specifies that it is possible to execute the mixing protocol. As it is now, this constraint actually specifies two constraints, one of which is only implicitly mentioned.
3.1	Other	**CPR24** and **CPR27** contain solutions. We specify that we will use vector formats, but this is not a customer need. Therefore, this part should be removed.

Hugo Snel

Location/reference	Category	Remark
Version 0.3		
3.1	Structure/Layout	The priorities should be listed in list-format instead of the current 'newline-format'
3.1	Other	"could have" talks about 'budget' whilst there is no financial compensation. This seems a bit odd.
3.1	Incorrect	"won't have" talks about "this version", whilst the requirements describe only the final deliverable. This seems a bit odd.
3.1 & 3.2	Structure/Layout	For all requirements with 'save' → 'Save and manage'. If you have access to store it, access to delete is kind of implicit (in b4 memory overflow). This would make all 'is able to delete ...'' requirements obsolete.
3.1 & 3.2	Structure/Layout	Sort the table on importance. First all "must have", then "should", then "could".
CPR 7	Typo	should be "..can define a Stepsize" or "..can define a time period." Not both.
CPR 7	Missing	Say something about a "fixed period" (otherwise the difference with the dynamic stepsize in 08 isn't clear).
CPR 8	Missing	Mention that stepsize can be adjusted in between steps (it is a dynamic stepsize)
CNR 12,13,14	Structure/Layout	replace with "The application is compatible with devices running .."

2.6 Appendix A

2.6.1 External reviews

Junior Management

Location/reference	Category	Remark
Version 0.3		
Appendix A	Missing	Add alternatives, if necessary.
A.2	Questions	What are the details in the storage of step 6?
		Will the exports of the results also be deleted?

Technical Advisor

Location/reference	Category	Remark
Version 0.3		
Appendix	Structure	Perhaps you can omit the preconditions and instead include the necessary use cases as an additional step in the use case.
Appendix	Missing	Now, it is not directly clear how the use cases are related; perhaps you could add a Use Case Diagram with a "precedes" relation to indicate the preconditions.
A.3	Incorrect	The first step in this use case is that the FIN-GERPAINT application gives a response, but now it seems that the application triggers the use case. This seems a bit strange, because it is a use case for users.
A.3 & A.5	Question	Is the confirmation message in step 7 from A.3 and step 7 from A.5 the exact same confirmation message? You're mixing general descriptions with specific descriptions, try to stick to one of them.
A.7	Question	Is the priority of this use case correct? It seems that selecting a geometry and mixer is quite important for the application.
A.9	Question	What does the *Load C_0* button do? It is not clear what it does from the name of this button.
A.10	Question	Why is the first step numbered as 0? Is it different from the other use cases?
A.10	Structure	I would change "Increments/decrements value in the display..." to "Increments/decrements value and displays the change in the display..."
A.11 & A.12	Inconsistent	The numbering from the use cases mentioned in step 3 appear to be inconsistent with the actual use cases listed.

2.6.2 Internal reviews

Benjamin van der Hoeven

Location/reference	Category	Remark
Version 0.3		
A	Other	Yellow background is probably not suitable for printing, and also looks slightly unprofessional.

Femke Jansen

Location/reference	Category	Remark
Version 0.3		
A	Typo	"use-cases" should be "use cases".
A	Missing	Perhaps also explain what the *Preceeds* and *Uses* relationships mean, although we know what this means, the client might not.

2.7 Appendix B

2.7.1 Internal reviews

Benjamin van der Hoeven

Location/reference	Category	Remark
Version 0.3		
B	Other	Third person sounds a bit odd.
B	Typo	No closing '.'.
B	Other	For alternatives: say *why* the alternative takes place.
B.1	Other	To define a mixing geometry and mixer, the user should first tap the "Start mixing" button. I'd think that this button means that the mixing starts now, not that I first have to do all kinds of things before the mixing actually starts.
B.2 and others	Other	Alternative 6: Which mixing interface?
B.4 and others	Other	"B.1 or B.2 or B.3" should be "B.1, B.2 or B.3".
B.4 and others	Other	Use "and" instead of "&".
B.5 and others	Typo	"succesfull" → "successful".
B.5, B.11, B.12, B.14, B.15, B.16	Other	Why is a message shown when the save was successful? It would only be an annoying pop-up that the user would have to click away. I'd only show a message if the save was unsuccessful.

Location/reference	Category	Remark
B.7	Question	Is it possible that there are no saved protocols? I thought that either we would not implement this feature or the client would provide us with predefined protocols.
B.8 and others	Typo	Inconsistent spacing.
B.8	Question	Remark is not clear.
B.9	Other	Maybe refer to use cases by name, not just by section number.
B.10	Question	What is the protocol-log?

Femke Jansen

Location/reference	Category	Remark
Version 0.3		
Figure 2.1	Question	What are those use cases listed above the diagram? Do they have no relations to other use cases? Maybe you can clarify this a bit.
Figure 2.1	Missing	In the use case B.8, you mention B.4, B.5, B.6 or B.7 as actor actions that have been taken earlier. In the use case diagram, however, there is no direct arrow between B.4 and B.8.
Figure 2.1	Question	Is it an idea to also include the IDs (B.x) of the use cases in the use case diagram? I think this might clarify things even more.
Figure 2.1	Inconsistent	Use case B.20 is called "remove concentration distribution", but the use case listed in figure 2.1 says "remove initial concentration distribution"