Abstract

The following documentation provides a detailed weekly overview of the ongoing project process which consists of a global and weekly work division reports, all the meeting agendas and taken minutes for their corresponding weeks throughout the course.

PROCESS REPORT DOCUMENTATION

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# Introduction

## Version description:

First version of process report document which covers the work conducted by the team and the outcome of all meetings held on a weekly basis from the start of the project until week 14 (End of Iteration 2 and start of Iteration 3)

## Global Work Division

The work on the project has been performed in the span of one university semester consisting of two modules. Therefore, the work which had to be conducted has differed in the first and second periods. The first period consists of the kick-off phase, the initial phase and Iteration #1; The second period consists of Iteration #2, Iteration #3 and the ending phase.

In the following chapter the deliverables and persons responsible for them are presented.

## First Period (February – April 2019)

### Kick-off Phase

|  |  |
| --- | --- |
| Deliverable | Person(s) Responsible |
| Application Proposal | The team |
| Initial Project Plan Draft | Nikolas Zhmakin |

### Initial Phase

|  |  |
| --- | --- |
| Deliverable | Person(s) Responsible |
| Work Division Report | Author: Velin Ekupov; Took part: The team. |
| Final version of Project Plan for Iteration #1 | Velin Ekupov |
| Updated URS | Velin Ekupov |

### Iteration #1

|  |  |
| --- | --- |
| Deliverable | Person(s) Responsible |
| Final URS for Iteration #1 | Velin Ekupov |
| Final version of Project Plan for Iteration #2 | Velin Ekupov |
| Proof of concept | The team |
| UML Class & Sequence Diagrams | Velin Ekupov |
| Work Division Report v2 | Author: Velin Ekupov; Took part: The team. |
| Design Document for Iteration #1 | Velin Ekupov |

## Second Period (April – June 2018)

### Iteration #2

|  |  |
| --- | --- |
| Deliverable | Person(s) Responsible |
| Final URS & Design Document for Iteration #2 | Velin Ekupov, Boris Tsvetanov |
| Final version of Project Plan for Iteration #3 | Velin Ekupov |
| Source code of prototype and prototype itself | The team |
| Work Division Report v3 | Author: Velin Ekupov; Took part: The team. |

### Iteration #3

|  |  |
| --- | --- |
| Deliverable | Person(s) Responsible |
| Final URS & Design Document for Iteration #3 | Boris Tsvetanov |
| Process Report Document | Boris Tsvetanov |
| Source code of final product and product itself | The team |
| Final Work Division Report version | The team. |

### End Phase

### 

|  |  |
| --- | --- |
| Deliverable | Person(s) Responsible |
| Project Presentation | The team |

# Weekly Work Overview Log

## Week 1 (04.02 – 10.02)

### Meeting

No meeting was conducted during the first week of the course, a general overview of the course was given, and we received instructions to form teams consisting of 5 or 6 members, take a decision on what application we will be building and give our preferences if we want to be appointed to a specific tutor.

### Conducted Work

Successfully gathered a team of 5 members taking the decision that we do not need a 6th one. The team appointed *Velin Ekupov* as Project Leader, *Boris Tsvetanov* as Project Secretary and the remaining 3 members – *Aleksandar Staykov*, *Dimitar Dyakov* & *Nikolas Zhmakin* were given no specific role.

The team agreed that the simulation application which we will be building throughout the span of the course is going to be a “**Baggage Handling Airport Simulation System**”. The tutor that we wanted to have for this project is Mr. Shaghelani Lor, Mikaeil.

## Week 2 (11.02 – 17.02)

### Meeting (Date & Time: 12.02 / 16:00 UTC)

|  |  |
| --- | --- |
| Attendees: | Mikaeil Shaghelani, Aleksandar Staykov, Boris Tsvetanov, Dimitar Dyakov, Velin Ekupov, Nikolas Zhmakin |
| Chairman: | Velin Ekupov |
| Minute Taker: | Boris Tsvetanov |

### Agenda

This was our first meeting which served as general overview with our tutor – Mr. Shaghelani Lor, Mikaeil.

|  |
| --- |
| **Meeting the requirements**   1. Discussion about the specifics of the project and getting a general understanding of what exactly is expected of our team for our chosen topic. 2. Getting feedback on the initial concept version of the project plan.   **Closing the meeting**   1. Questions |

### Minutes

The table below provides the meeting minutes.

|  |  |
| --- | --- |
| Agenda Item | Notes |
| Discussion about project specifics | * Actual user-friendly simulation containing animation which could be done via any technologies the team agrees to. * As a start – Give feedback to each other, create a proper task division, re-use code from your teammates to prevent a messy application at the end. * Develop an in-depth idea about the specifics of how the application should work and make sure that everyone in the team understands it. * We should focus on our application to be able to receive input from our client, process that input in the most efficient way and deliver it back in a user-friendly way as smoothly and quickly as possible without any issues. |
| Initial Project Plan Feedback | * First draft is okay, make sure to be more specific and get more into details for the next week. |
| Questions |  |
|  |  |

## Week 3 (18.02 – 24.02)

### Meeting (Date & Time: 20.02 at 12:00)

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| --- | --- |
| Attendees: | Mikaeil Shaghelani, Aleksandar Staykov, Boris Tsvetanov, Dimitar Dyakov, Velin Ekupov, Nikolas Zhmakin |
| Chairman: | Velin Ekupov |
| Minute Taker: | Boris Tsvetanov |

### Agenda

This was our second meeting with our tutor – Mr. Shaghelani Lor, Mikaeil.

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| --- |
| **Meeting the requirements**   1. Documentation problems   **Closing the meeting**   1. Questions |

### Minutes

The table below provides the meeting minutes.

|  |  |
| --- | --- |
| Agenda Item | Notes |
| Discussion about documentation specifics | * Problem and Project goal are too general - should be completely for our project and not so broad * Project Phasing needs a Ghantt chart * Change ‘’milestones’’ with ‘’sprints’’ * Time Distribution -> one table with sprints and the time for each sprint * Remove ‘’money’’ part from P.P. * Section 2.1 should be renamed |
| Overall tips | * Use the same logo in all documents and apps * one page or half a page with description of our project like a story introduction -> add in the P.P. |
| Questions | * Is the app performance graded? (how fast it calculates) * Answer: depends on the depth of the app and how far you are going to code the app - if it is fast/dynamic it will give us an extra point pause/resume etc -> also bonus points * Can we use multiple screens? * Answer: look like dashboard panels / different tabs / dynamic movement * 2.What is proof of concept? * A: the step before prototyping, showing the characteristics and the functionality of the project (it isn't necessarily to be a fixed design) * - basically the functionalities without the specific implementation * 3.What about the randomization? * -> good start, plan something simple, do it and then decide how it can be improved   URS is something that the client can understand  design document is the realization of the stories from the URS  design document is the one having UML inside |
|  |  |

Week 4 - no meeting was held

Week 5 (11.03 – 07.03)

Meeting (Date & Time: 13.03 at 12:00)

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| --- | --- |
| Attendees: | Mikaeil Shaghelani, Aleksandar Staykov, Boris Tsvetanov, Dimitar Dyakov, Velin Ekupov, Nikolas Zhmakin |
| Chairman: | Velin Ekupov |
| Minute Taker: | Boris Tsvetanov |

Agenda

This was our third meeting with our tutor – Mr. Shaghelani Lor, Mikaeil.

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| **Meeting the requirements**   1. Project Plan 2. URS 3. Trello 4. Deadlines   **Closing the meeting**   1. Questions |

Minutes

The table below provides the meeting minutes.

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| --- | --- |
| Agenda Item | Notes |
| Project Plan and URS | * planning is alright   most of the activities are from the workbook - if we could think of something more in order not to be too generic  current situation (1.3) ,1.4 and 1.5 have to be updated (check minutes from meeting 2 about that)   * remark about the time schedule: 10 hours per member NOT per week, multiply by 4 , because right now is only for one * Ghantt chart   the ghantt chart is supposed to have everything (activities)  per sprint specify what type of activities should be done for the particular sprint  for example: initial sprint -> project planning and concept design  update the ghantt chart and take a screenshot to put inside documentation   * URS   everything that the user wants to do with your app has to be inside the URS  finish URS asap  use cases and use case diagrams have to be inside URS,  then you pick up several use cases from the URS and use them for the current iteration, next iteration -> other use cases  think about which use cases are with higher priority and why |
| Trello and Deadlines | * Trello   add more comments in trello and more often  at the end of the day each one of us should have one card working (15mins / 30 mins...)   * we should have some functionality till end of week 7 * meeting with client is in week 11 -> presentation for client * the design has to cover all functionalities of phase 1 not every iteration   design and code what you need for the specific phase - not more than that.  design what is promised for phase 1 |
| Questions | * unit test and/or integration test can give you bonus points * Do we need a database: not really store the data in files preferably encrypted file. * except if you want some access online functionality - then database would be more decent |
|  |  |

Week 6 (18.03 – 24.03)

Meeting (Date & Time: 20.03 at 12:00)

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| --- | --- |
| Attendees: | Mikaeil Shaghelani, Aleksandar Staykov, Boris Tsvetanov, Dimitar Dyakov, Velin Ekupov, Nikolas Zhmakin |
| Chairman: | Velin Ekupov |
| Minute Taker: | Boris Tsvetanov |

Agenda

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| **Meeting the requirements**  1. Documentation  2. Wireframes  **Closing the meeting**   1. Questions |
|  |

Minutes

The table below provides the meeting minutes.

|  |  |
| --- | --- |
| Agenda Item | Notes |
| Discussion about documentation specifics | * in the beginning of the P.P. -> change the naming to whatever is inside the workbook -> remove the words ''sprint '' * send the rough planning as a recommendation * plan your URS based on the sprints * put the use case diagram in the URS * for every sprint pick some of the use cases and finish them during the particular sprint. * otherwise everything is alright * start with the design document * put all minutes in the Process Report |
| Wireframes | * wireframes are alright * - keep in mind the extensibility of our application (more MPAs etc.) * the UI is good * URS: make UML diagram for the URS |
| Questions | * use Trello for an overview of the progress and you can attach it to the process report * after exams work on a presentation for the client (explain your iteration, what did you plan and what did you do, don't dive deep into details, don’t show anything technical! ) |
|  |  |

Week 7 – no meeting was held

Week 8 – no meeting was held

Week 9 – no meeting was held

Week 10 – no meeting was held

Week 11 (22.04 – 28.04)

Meeting (Date & Time: 24.04 at 12:00)

|  |  |
| --- | --- |
| Attendees: | Mikaeil Shaghelani, Aleksandar Staykov, Boris Tsvetanov, Dimitar Dyakov, Velin Ekupov, Nikolas Zhmakin |
| Chairman: | Velin Ekupov |
| Minute Taker: | Boris Tsvetanov |

Minutes

The table below provides the meeting minutes.

|  |  |
| --- | --- |
| Agenda Item | Notes |
| Discussion about documentation specifics | * After the holiday we will have a meeting of about one hour -> retrospective (go through the progress, what we did etc.) and think of how much we can implement before the end * => be realistic of what we can do * most important: * what is missing currently in the app is: timing * we could have reusability of our app which means   that based on statistics we can improve the process |

Week 12 (06.05 – 12.05)

Meeting (Date & Time: 08.05 at 12:00)

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| --- | --- |
| Attendees: | Mikaeil Shaghelani, Aleksandar Staykov, Boris Tsvetanov, Dimitar Dyakov, Velin Ekupov, Nikolas Zhmakin |
| Chairman: | Velin Ekupov |
| Minute Taker: | Boris Tsvetanov |

Agenda

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| --- |
| **Meeting the requirements**  Documentation concerns  App concerns  **Closing the meeting**  Questions |

Minutes

The table below provides the meeting minutes.

|  |  |
| --- | --- |
| Agenda Item | Notes |
| Discussion about documentation specifics | * remark: where is the design document? * check the whole documentation - update URS and Design Document -> keep the past iterations just add more for the next iterations. * Make a Process report = Work division report + minutes and agenda should be inside. * Iteration Plans   push to git the Iteration Plans (1 and 2 )  two-page word document should be enough.  Iteration Plan 3 is the last iteration and is the last promise about the functionalities so everything inside it is strict and should be completed. |
| App concerns | * Have one functional and working app for the next meeting! * For next week: Create a movement scene and be able to save it - will be enough * Focus on the prototype for this week   and after that make the iteration planning. |
| Questions | * Frontenders have to do some code behind and vice versa and show commits in git |
|  |  |

Week 13 (13.05 – 19.05)

Meeting (Date & Time: 15.05 at 12:00)

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| --- | --- |
| Attendees: | Mikaeil Shaghelani, Aleksandar Staykov, Boris Tsvetanov, Dimitar Dyakov, Velin Ekupov, Nikolas Zhmakin |
| Chairman: | Velin Ekupov |
| Minute Taker: | Boris Tsvetanov |

Agenda

This was our second meeting with our tutor – Mr. Shaghelani Lor, Mikaeil.

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| --- |
| **Meeting the requirements**  Documentation concerns  App concerns  Presentation concerns  **Closing the meeting**  Questions |

Minutes

The table below provides the meeting minutes.

|  |  |
| --- | --- |
| Agenda Item | Notes |
| Documentation Concerns | * New branch: Documentation * Design Document is still not complete - no need for sequence diagrams, maybe only one for the design of the canvas * put UI part on top - also add old wireframes which shows the progress even old drawings on paper |
| App and Presentation concerns | * Make labels for the elements * Some dynamic features are required -> having the statistics change dynamically while the process/simulation is running - is good idea * One line is working we need to do multiple lines working - it will take us about two weeks * First finish on multiple lines and THEN focus on statistics * In Trello is added what type of statistics we like to show * SAVE and LOAD button implementation * back end: dynamic building module * For Presentation: * 12th of June - assessment date - presentation day * we can work till the last moment - tutor will check all commits it is not a problem. |
| Questions | * unit tests are not mandatory but will give you one point (for a 10 ) otherwise it goes from 9 downwards. |
|  |  |

Week 14 (20.05 – 26.05)

Meeting (Date & Time: 22.05 at 12:00)

|  |  |
| --- | --- |
| Attendees: | Mikaeil Shaghelani, Aleksandar Staykov, Boris Tsvetanov, Dimitar Dyakov, Velin Ekupov, Nikolas Zhmakin |
| Chairman: | Velin Ekupov |
| Minute Taker: | Boris Tsvetanov |

Agenda

This was our second meeting with our tutor – Mr. Shaghelani Lor, Mikaeil.

|  |
| --- |
| **Meeting the requirements**  Documentation concerns  App concerns  Presentation concerns  **Closing the meeting**  Questions |

Minutes

The table below provides the meeting minutes.

|  |  |
| --- | --- |
| Agenda Item | Notes |
| Documentation Concerns | * Documentation is alright for the minimum requirements * More can be done -> use cases can be expanded for example all steps in the app should be in the use cases * - but we can leave it for the end when everything else is done * About iteration plan 3: connecting back-end and front-end should be done as soon as possible - mention inside about REAL- time statistics so that it sounds more detailed |
| App and Presentation concerns | * picture boxes are not serializable in XAML - any classes that have picture boxes inside are not serializable - the way of fixing it is to first serialize the whole class and then data members that are not serializable are just excluded * leave extras/bonuses at the end * minimum BSU storing time (max and average) * try for each unit to add a min, a max and average * otherwise it is all good |
| Questions | * Trello has overview of the statistics variables |

Week 15 – no meeting

Week 16 (03.06 – 09.06)

Meeting (Date & Time: 22.05 at 12:00)

|  |  |
| --- | --- |
| Attendees: | Mikaeil Shaghelani, Aleksandar Staykov, Boris Tsvetanov, Dimitar Dyakov, Velin Ekupov |
| Chairman: | Velin Ekupov |
| Minute Taker: | Boris Tsvetanov |

Agenda

This was our second meeting with our tutor – Mr. Shaghelani Lor, Mikaeil.

|  |
| --- |
| **Meeting the requirements**  Documentation concerns  App concerns  Presentation concerns  **Closing the meeting**  Questions |

Minutes

The table below provides the meeting minutes.

|  |  |
| --- | --- |
| Agenda Item | Notes |
| Documentation Concerns | * if we want more points - bonus points - improve use cases / unit tests / update URS * process report is insufficient yet - add minutes inside of it * also write down reflections, give ourselves a mark * and justification of the mark * everybody must write it himself |
| App and Presentation concerns | * about unit tests: * unit tests - for now we have only on one of the factories that creates the nodes, preferably we should cover over 80 percent of the app this is probably not going to happen * - focus on unit tests for the main functionality * Nikolas has to contact tutor for him being absent – it’s not a problem * work load division is good - no problems there * source code is good * Think about saving button - classes should be serialized - if we can’t manage to do it leave it, it’s more important to present what works not what doesn’t. * Presentation Concerns: * presentation is next week on Wednesday * don’t go over 20 minutes (maybe 15)   maximum half an hour combined with questions from client / students   * try to address all the problems don’t go into details focus on why we made certain decisions and why we structured the application in this way * a lot of branches in git - hard to keep track of |
| Questions | * We are selling the product * About unit testing: * if we have an abstract class to test -> use one of the children - no need to test it with all the children unless they have different functionality. * for the UI - give labels for the icons * make sure the presentation goes smooth * for statistics after click of run button transfer to statistics tab |

**Work Division Report**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Initial | Iteration 1 | Iteration 2 | Iteration 3 |
| Velin Ekupov | Researched algorithms to be used, finalized project plan, scrum master in Trello, initial version of URS | BSU, MPA modules. Documentation. | BSU & MPA fixes, Documentation, Front-end models | Building the BSH model, Convert model for back-end |
| Dimitar Dyakov | Creating and finalizing initial project infrastructure, xaml animations research and UI division. | Assisted in building the MVVM for the Administration | XAML Grid, Application layout | Flight scheduling, Import/Export |
| Boris Tsvetanov | Researched animation techniques, started learning WPF, helped on use case diagram, minute taker | Assisted in building the MVVM for the Administration | Simulation screen,  Research Metro library | Statistics, Documentation |
| Aleksandar Staykov | Creating the Excel Importing/Exporting module as well as the initial versions of some of the data models | Processing and Transportation nodes base classes. Logging. Simulation speed control. CheckInDispatcher, CheckIn, Conveyor,  PSC, ASC, AA, BagCollector modules. Modules factory | Multi-path backend construction | Statistics calculation, Unit tests |
| Nikolas Zhmakin | Research on WPF and the MahApps.Metro library | Attempted to build a MVVM for the Administration Page, Initial work on the front end of the statistics page | Statistics diagrams and page layout | Statistics display |

# Personal Reflection

|  |  |  |
| --- | --- | --- |
| Name | Reflection | Mark |
| Velin Ekupov | Overall, I found the project fascinating and useful. I learned a lot on working with .NET and designing bigger-scale projects | 9.1 |
| Dimitar Dyakov | I gained a lot of experience in working with desktop applications with WPF and XAML during this project. I think it was very useful for enriching my personal skills. Overall, the teamwork and the collaboration was on point. | 9.2 |
| Boris Tsvetanov | Overall, I found the project interesting and challenging. I learned how to work with WPF, XAML, MahApps Metro Charts library and improved my C# knowledge. | 8.9 |
| Aleksandar Staykov | The project was very cool. I acquired a lot of proficiency in working with Autofac and NCrunch. | 9.3 |
| Nikolas Zhmakin | Learning XAML, WPF and the MetroCharts library, I think the project contributed majorly towards my education in .NET. | 9.0 |

# Justification of the mark

Even though our project does not have an animation we believe that overall the mark we deserve is around a 9. This is because we have diverse functionalities and we kept our promises towards the client. We were also able to cover about 90 to 100 percent of the logic with unit testing and about 60 to 70 percent unit test coverage of the models. In this way the average coverage is about 80% which should give us bonus points. Also, we used different libraries and frameworks like Metro Charts, NCrunch, Autofac and extended our documentation.