HOGESCHOOL ROTTERDAM / CMI

Project 1
Creating a Board Game

INFPRJ01

ECTS: 4
Module responsibility: Lotte Muilwijk

Description of the course

Modulenaam:	Project 1 – Creating a Board Game
Modulecode:	**INFPRJ01**
Aantal studiepunten en studiebelastinguren:	This course provides you with four (4) study points, which corresponds to a workload of 112 hours. The recommended distribution of these 112 hours during the study weeks is as follows: Supervised lectures: Kick-off: 3 * 50 minutes 2,5 hours Project lesson (for 3 weeks): 6 * 50 minutes 15 hours During the project: 4 * 50 minutes 3 hours Presentation of the product: 3 * 50 minutes 2,5 hours Unsupervised hours: Time to work on the project incl. literature study 89 hours **Total** **112 hours**
Vereiste voorkennis:	For this course there is no prior knowledge required, only the course material given during OP1.
Werkvorm:	Project-based education (groupwork)
Toetsing:	Examination is based on the delivered product and the process of the project
Leermiddelen:	Franken, M (2013), *Scrum voor Dummies*. (1st edition), Amsterdam: Pearson Education Benelux B.V., ISBN 978-90-430-2403-7
Draagt bij aan competentie:	▪ Beheren ▪ Analyseren
Leerdoelen:	▪ [**B1**] You can apply an agile method (Scrum) for the design and implementation of a (ICT) product. ▪ [**A1**] You can create a usability test, execute it and report the results in a given format, with the ultimate goal of improving your product. ▪ [**A2**] You can divide problems in smaller pieces (problem decomposition).
Inhoud:	You learn to work in a group context (*process*) and to realize a project assignment (*product*) for a client. Many aspects of the development/project methodology Scrum are addressed.
Opmerkingen:	Attendance is obligatory. Groups will be created by the tutor and communicated during the first day of the project. *Note*: Groups that, during the course of the project, lose team members and remain with 3 (or fewer) students, will discuss with their project teachers about adjusted criteria for the evaluation and/or changes in group formation which can be made by the tutor.
Modulebeheerder: **Datum:**	L. Muilwijk 19 September 2016

1. General information

1.1 Introduction

As an IT professional you will probably work in teams during one or several projects: that is how companies work nowadays. Maybe you have had some experience in the past during high school, for example working together with a classmate to write a paper or during a practical assignment. Perhaps you have encountered some problems. For example making clear collaboration agreements or the fact that one of the group members did significantly more work than the other. In the worst case, you would have preferred to do the whole assignment fully on your own.

During the Bachelor education for Computer Science at the Rotterdam University of Applied Sciences, we will begin with teaching you all about the necessary theory and skills before starting a project. This way you will be properly prepared and you will be able to apply this knowledge during the practice of the first project. We will constantly monitor your progress and give you feedback on a regular basis, so you can improve your skills and hopefully complete the project successfully.

During the first project you will be making a real life board game.

1.2 Relationship with other courses

You will need to apply all the knowledge learned during the first three courses (Skl, Anl, Dev) in the project itself.
The knowledge acquired during the *Skills* course (INFSKL02-1) is tightly connected and applicable to every project you will encounter, starting from this one. In such a course you will learn about collaboration, leading a project, why meetings are important, giving each other feedback and communicating with one another. The other two courses (*Analysis* INFANL02-1 and *Development* INFDEV02-1) are of course equally important for the knowledge and expertise needed to complete the project with a satisfactory product. Above all, we will train and teach you to show us a professional attitude.

1.3 Learning materials

Mandatory:

- Franken, M. (2013), *Scrum voor Dummies* (1e druk), Amsterdam: Pearson Education Benelux B.V., ISBN 978-90-430-2403-7
- Trello, https://trello.com (project Scrum)
- N@tschool (project dossier)

Important note: you must do some research on your own on the notation of flowcharts, to be able to create correct flowcharts. In the list below (facultative material) you can find a URL to start with, but you can of course also use other sources of information. You can exploit the meetings with the ANL teacher (see strippenkaart in Attachment 4) to check your work and answer your doubts.

Facultative:

- https://en.wikipedia.org/wiki/Flowchart
- Astah (to create flowcharts)
- http://ninjamock.com

2. Program and contents

2.1 Case

"Een bordspel is een spel dat op een tevoren gemarkeerd oppervlak (spelbord) wordt gespeeld. Er wordt dan gebruikgemaakt van stukken, stenen of fiches. Sommige bordspellen zijn pure kansspelen (er wordt dan bijvoorbeeld met een dobbelsteen gerold). Andere zijn strategisch, zoals schaken. Een combinatie van strategie en kans komt ook veel voor." (from Wikipedia)

A board games company is interested in creating a **new board game** to launch in time for this Christmas. The company does not have a clear idea yet on which specific game to make, and gives you the assignment of creating it. The only requirement they set up is about the **theme**: you must choose between
(i) healthcare;
(ii) port of Rotterdam;
(iii) city of Rotterdam.
You can take inspiration for the mechanics from a known game (for example Risk, Monopoly, etc.) and create an improved/revised version of it, but you can also start from scratch.
It is particularly important for this company that the instructions of the game (and the design of the game itself) are understandable without problems from all possible users of the game. A lot of attention should then be put both in the initial design (with usability in mind) and in the description of the game mechanisms (through a clear set of instructions). It is fundamental to test the game with real potential users. You can exploit informal feedback from potential users already in the designing phase. Before the final delivery of the product, it is required to execute (at least once) a formal usability test.
The final delivery includes also the physical version of the game (needed for the usability test and for a demo during the final presentation). However, keep in mind that the physical game is not the central point of the project: the *functionality* is more important than the visual aspect, which is not considered in the grade. Try to be creative in finding materials to use without spending money: for example, you can use pizza boxes as a box for your game, print cards of the game on simple paper which you can cut manually, reuse dice from old board games that you already possess, etc. Following the Stadslab workshop[1] you will be able to use the 3D printer of the school, if needed (only for small things).

2.2 Assignment

Create a board game which satisfies the criteria specified in the previous paragraph. Remember to follow the constraint about the theme (healthcare, port, city).
You have to work in a group, using the Scrum process methodology. The company has already prepared a *Product Backlog* (P.B.) for you (excel file online on N@tschool), specifying their wishes and requirements. The items of the P.B. to approach in the first sprint are also specified. For the following sprints, you will choose which items to tackle, coordinating with your Product Owner (P.O.).
In the same file of the P.B., you will also find a *format template for a Sprint Backlog* (use it during the project!) and an example of how to fill it in (for each item of the P.B.: id, user story, Moscow priority, time estimation, tasks, acceptance criteria).

2.3 Week scheme

The project covers the last three weeks of OP1, each one corresponding to a sprint: week 8 (sprint 1), week 9 (sprint 2) and week 10 (sprint 3).

In the following table you can see the lessons of each week and the corresponding deliveries.
Deliveries must be done **no later than 12 hours** before the start of the corresponding lesson. For example, if your lesson is planned at 10.30 on Wednesday, you must deliver before 22.30 on Tuesday.
The deliveries will be done through Trello (project Scrum) and N@tschool[2] (project dossier).

[1] More information on this workshop will be given during the kickoff.
[2] The scrum master of each group will have the duty of uploading the documents to deliver for his/her group in a compressed file called "INF1X – Group Y – Sprint Z".

Week	Day (see schedule for details)	Teachers present[3]	Topic	Deliveries (deadline: 12 hours before the lesson!)
8	Monday at 13.30 in Pathé Schouwburg-plein 101	P.O. and Tutor	Kickoff + Project presentation	
8	~half of week	Tutor	Feedback on collaboration	Samenwerkingscontract, Sprint 1 Backlog, Scrumboard[4]
8	~end of week	P.O.	Review Sprint 1; Planning Sprint 2	Sprint 2 Backlog; Product Backlog overview[5]; Shippable product
9	~half of week	Tutor	Feedback on collaboration	Scrumboard, Sprint 2 Backlog
9	~end of week	P.O.	Review Sprint 2; Planning Sprint 3	Sprint 3 Backlog; Product Backlog overview; Shippable product
10	~start of week	P.O.	Optional feedback on progress (only if requested by the groups)	
10	~half of week	Tutor	Feedback on collaboration	Scrumboard, Sprint 3 Backlog
10	~end of week	P.O. and Tutor	Final presentations including: demo shippable product; process review (who did what), usability tests and flow charts (brief summary). All students participate and the presentation is > 15 min.	Product Backlog overview; Shippable product; Presentation slides

Important note on the deliveries: "**shippable product**" means that you must deliver all documents related to the work done during the sprint (i.e., text documents, images, etc.) and that have to be used to evaluate your progress (the acceptance criteria of the Backlog items). In the last sprint, the final version of all documents must be delivered, plus some pictures of the final version of your physical game.

[3] If compatible with personal work schedules, Tutors are invited to attend the P.O.s lessons, and vice versa.
[4] You must invite the Tutor to your Trello Scrumboard.
[5] "**Product Backlog overview"** means that you should add to the P.B. information (in additional columns) what has been done in previous sprints and what is planned for the next sprint. This way, the P.O. (and yourselves!) will have a quick way to see a summary of the progress of the project.

3. Evaluation

Learning goal	Evaluated by	Evaluated through	Partial result
B1	Tutor	*Attachment 1* (Evaluation form B1 Tutor)	Maximum **2 points (**for the implementation of SCRUM) or individual **NO GO**
B1	P.O.	*Attachment 2* (Evaluation form B1 P.O.)	For each of the first two sprints, a maximum of 1.5 points per sprint. Maximum total: **3 points**
B1, A1 & A2	P.O.	*Attachment 3* (Evaluation form Final Product)	Maximum **5 points**

- The final grade is the sum of the partial results, with a maximum total of **10 points**.
- If you receive a NO GO from Attachment 1, then you do not receive a sufficient grade for the project, but "ND".
- The forms associated to each evaluation part are given in the attachments.
- Each group must meet the ANL teacher 2 times during the project to get some feedback (see *Attachment 4*).

3.1 – Examples

The following partial grades:
- 2 points from Attachment 1
- 1.5 points from Attachment 2
- 2 points from Attachment 3

bring to a final grade of 2 + 1.5 + 2 = **5.5** (voldoende)

The following partial grades:
- 0 points from Attachment 1
- 2 point from Attachment 2
- 3 points from Attachment 3

bring to a final grade of 0 + 2 + 3 = **5** (onvoldoende) → herkansing

The following partial grades:
- NO GO from Attachment 1
- 3 point from Attachment 2
- 5 points from Attachment 3

bring to a final grade of onvoldoende → herkansing

3.2 – Herkansing (resit)

In case of an insufficient grade (*onvoldoende*) for INFPRJ01, the whole project has to be repeated during the following education period (OP2). The same assignment must be done again, but this time individually, without coaching and without supporting education. The final product will be evaluated again through Attachment 3 (maximum 5 points). You must also do a substituting assignment for the Tutor, which covers the topics of Attachment 1[6] and gives a maximum of 2 points. The final grade is the sum of the points (with a total maximum of 7). You must deliver the materials for your herkansing on N@tschool by the end of week 7 OP2. If you do not succeed in the resit, then you will need to follow this course again next school year.

[6] The student must make a movie related to the sections of Scrum that were not sufficient (approximately 10 minutes). The movie must show that the student understands and can apply the Scrum method.

Attachment 1 – Evaluation form B1 [Tutor]

CLASS: INF1…, Group…

Attendance and individual commitment

Attendance will be checked during every lesson. Attendance is obligatory to get a grade for the project. Only when a valid reason is given to the Tutor or Product Owner prior to the lesson, an exception might be granted. When you have not met the attendance standards you will receive a No Go (meaning you have not taken part in the course and you will get ND as a grade). In fact, the Tutor has the opportunity to give you a No Go for your (lack of) individual commitment. Reasons when a Tutor, eventually in accordance with the group, might decide to give a No Go, are the following:
→ The student did considerably less work for several weeks.
→ The student has been a burden to the group's development and cannot really show the amount of work he/she has done individually.
→ The student was absent for a substantial amount of time and therefore has not done enough work.
→ The student has been absent for several days without compensatory behaviour afterwards.
→ The group misses more than one box in week 10 in the parts b), c), d) (stand-up meeting, user stories, Scrumboard) of the section about the implementation of Scrum (see paragraph below).

The Tutor will write down the attendance in his/her lessons and the possible No Go in the following table:

	Week 8 attendance	Week 9 attendance	Week 10 attendance	No Go?
Name 1				
Name 2				
Name 3				
Name 4				
Name 5				

Implementation of Scrum

This section shows the criteria for the different deliveries for the Tutor. You can earn, in total, between 0 and 2 points for these deliveries, depending on their quality. The Tutor will write down the points earned for each part in the following table. Remember that in week 10 you cannot miss more than one box in every part, otherwise you will get a No Go. Details about each part will follow below the table.

	a) Cooperation contract (0 or 0.5)	b) Stand-up meeting (0 or 0.5)	c) User stories (0 or 0.5)	d) Scrumboard (0 or 0.5)	**Total team points (0/0.5/1/1.5/2)**
Points					

a) Cooperation contract [0.5p]

If the cooperation contract meets all the criteria specified below when you first deliver the document, you will get 0.5 points for this part.

Criteria	Week 8
The document is complete, professional and neat.	
There are no language mistakes in Dutch.	
All parts (like: division of roles, contact specifications, meeting moments, communicational tools etc.) are specific enough.	
All rules and consequences are clearly specified.	
All students are aware of the rules.	

Notification:

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_____

b) Stand-up meeting [0.5p]

You are allowed to miss one box in week 8 and 9 but in week 10 you cannot miss any boxes anymore. If those criteria are met you will get 0.5 points for this part. If you miss more than one box in week 10 you will get a No Go.

Criteria	Week 8	Week 9	Week 10
Every group member is well prepared			
Every group member has an active role during the meeting			
The meeting is structured well (the timing and content are in accordance with the rules of scrum)			
Clear appointments are made			
The group members are listening to each other			

Notification:

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_____

c) User stories [0.5p]

You are allowed to miss one box in week 8 and 9 but in week 10 you cannot miss any boxes anymore. If those criteria are met you will get 0.5 points for this part. If you miss more than one box in week 10 you will get a No Go.

Criteria	Week 8	Week 9	Week 10
Enough user stories are made to deliver a potentially shippable product			
The user stories incorporate ‘WHO’, ‘WHAT’ and ‘WHY’ (role, wish and advantage)			
The user stories are relevant for the functionalities of the product			
The user stories are detailed enough and dividable in tasks			
There are no language mistakes in Dutch			
The user stories are prioritized by the MOSCOW-method			

Notification:

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_____

d) Scrumboard [0.5p]

You are allowed to miss one box in week 8 and 9 but in week 10 you cannot miss any boxes anymore. If those criteria are met you will get 0.5 points for this part. If you miss more than one box in week 10 you will get a No Go.

Criteria	Week 8	Week 9	Week 10
The Scrumboard is maintained by all group members			
The Scrumboard shows who has done what			
The Scrumboard shows which user stories are done during every sprint			
The Scrumboard shows which tasks are derived from the user stories			
The Scrumboard shows which tasks belong to 'TO DO', to 'DOING' and to 'DONE'			
The Scrumboard is clearly organized			

Notification:

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Attachment 2 - Evaluation form B1 [P.O.]

Note: an item of a Sprint Backlog can be considered "**fully completed**" if it satisfies the *acceptance criteria* associated to it. Students should specify the acceptance criteria together with the Sprint Backlog items.

CLASS: INF1…., GROUP …

Sprint 1 review – Maximum 1.5 points

CRITERIA	POINTS
• The documents requested for the sprint were delivered on time	YES => 0 points NO => Yellow card [7]
• Progress: the Sprint Backlog items assigned at the beginning of sprint 1 are completed o How many fully completed (FC): _____ o How many partially completed (PC): _____ o How many not done (ND): _____	FC > PC and ND = 0 => 1 point Otherwise => 0 points
• The Sprint 2 Backlog proposal is realistic (considering the workload) • The Sprint 2 Backlog contains all needed information o Selection of items from the PB (Product Backlog) and for each one: ID, user story, Moscow priority, planning poker, tasks, acceptance criteria	YES => 0.5 points NO => 0 points

Additional notes sprint 1 review:

_____

Sprint 2 review - Maximum 1.5 points

CRITERIA	POINTS
• The documents requested for the sprint were delivered on time	YES => 0 points NO => Yellow card
• Progress: the Sprint Backlog items assigned at the beginning of sprint 2 are completed o How many fully completed (FC): _____ o How many partially completed (PC): _____ o How many not done (ND): _____	FC > PC and ND = 0 => 1 point Otherwise => 0 points
• The Sprint 3 Backlog proposal is realistic (considering the workload) • The Sprint 3 Backlog contains all needed information o Selection of items from the PB (Product Backlog) and for each one: ID, user story, Moscow priority, planning poker, tasks, acceptance criteria	YES => 0.5 points NO => 0 points

Additional notes sprint 2 review:

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[7] See *Attachment 3* for consequences of yellow cards on the grade.

Attachment 3 – Evaluation form Final Product [P.O.]

During the last sprint review, each group presents its product. The Product Owner evaluates the final result.

CLASS: INF1…., GROUP …

CRITERIA	POINTS
• The documents requested for the sprint were delivered on time	YES => 0 points NO => Yellow card
• A usability test plan has been written • A usability test has been executed • A usability test report has been written • The feedback from the usability test was used to improve the product o If needed, the test was repeated to verify the improvement	YES => 1 point NO => 0 points
• The MUST HAVE items of the Product Backlog have all been implemented	YES => 0 points NO => -1 point
• Other items of the Product Backlog have been implemented o How many SHOULD HAVE: ____ o How many COULD HAVE: ____ o How many WOULD HAVE: ____	At least 2 more => 1 point Nothing (or 1) more => 0 points
• The set of instructions is complete (i.e., covers the whole game, starting from initialization to winning/losing conditions) • The instructions are clear to follow without previous knowledge	YES => 1 point NO => 0 points
• The game flow is described through multiple flowcharts representing different parts of the game (for example, initialization, turn, attack, etc…).	YES => 1 point NO => 0 points
• There is the definition (formal description made through a flowchart) of a winning strategy, that shows which behaviour is consistent with the rules of the game.	YES => 1 point NO => 0 points
The group received yellow cards...	0 yellow cards => 0 points 1 yellow cards => -0.5 points 2 yellow cards => -1.5 points 3 yellow cards => -3 points

The final grade for this part is obtained by summing up the points for each criteria.

Attachment 4 – Strippenkaart

During the project, you have the possibility of getting feedback from your ANL teacher. You must plan 2 appointments. Use the card below to setup the meetings with your teacher and to get his/her signature.

Project 1 analyse consultafspraken	
1	
2	

Per groep:
Binnen beschikbare tijd inhoudsdeskundige.
Alleen op afspraak.
Vol = vol.
Groep is verantwoordelijk voor tijdige afspraken.