## Project Management Course Zenhub + Github, when agile become a reality

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# **Project Management**

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# Introduction

Agile development or simply agile is a software methodology development that promotes the flexibility, interactivity and transparency [Szalvay-2004].

Agile software development projects are based on the nature of evolving (not fixed) requirements, (re-) usable code and the continous testing. This methodology (see Table 1) key elements are:

Table 1. Agile key elements

Element	Description
Stories/User Stories	Refers to the user requirements that also corresponds with product features.
Sprint Backlog	The collection of work scheduled for a sprint. At the begining of each sprint, the team decides the work to do during the sprint. These tasks should be organised by priority.
Global backlog (or icebox)	A collection of all user-stories. When a new user-story is defined, it is stored in the global backlog for their selection. Thus, the development team select them and introduce into the sprint. The main intention is to priorize as well the tasks for making simple their selection.
Sprints	Iteration cycles of the development cycle. Normaly 2-4 weeks. The main objective is to provide a small development (or prototype) to the customers.

The agile development cycle (Figure 1) starts with the definition of the product backlog (userstories, featues, etc.). During the spring planning, stories are selected to be implemented. Thus, it pass to the sprint backlog.

During the sprint development the stories are implemented and evaluated during 1-4 weeks. Each day during the sprint, several daily scrum meetings are performed to evaluate the work, the level of accomplishent and the project execution. Then, burndown and velocity charts are revised to see if the sprint is delayed, on time or faster than expected.

At the end of each sprint, a sprint review is performed in order to underestand the mistakes (learn from the experience). Moreover, the product is provided to the customer and a feedback from user is received, an new stories could appear.



Figure 1. Agile development cycle

# Agile Methodology in Github & Zenhub

The agile methodology is fully compatible with Github and Zenhub. In detail, Github provides a framework for managing documents (code, text, etc), coutinous follow-up of the project (using the Wiki, for example), and more important, managing the product releases (output of each spint).

Complementary, Zenhub provides a kanban model for managing the global backlogs, sprint backlogs, provide burndown reports, managing the isues life-cycle and, define objectives (sprints and product releases).

Considering these overall description of the Github and Zenhub usage, the Table 2 provide the association between Agile and the depicted tools.

Table 2. Agile vs Github & Zenhub

Element	Description
Stories/User Stories	Issues
Sprint Backlog	Backlog list in the board (Zenhub). Milestoned & unsassigned issues.
Global backlog (or new issues)	Icebox in the board (Zenhub). Unmilestoned & unassigned issues
Sprints Planning	Issues associated to the milestone
Sprints	Milestones
Sprint Planning Meeting	Wiki (Github)
Daily Scruum Meeting	Wiki (Github) & Burndown/up charts (Zenhub reports)

Element	Description
Sprint Review	Wiki (Github)
Finished Work	Code release (Github)

## Hands on Github and Zenhub



Customer need

eCORP, a larger company in business development, wants to elaborate the curse documentation for training their customers and employes. With this regards, we need to manage the development and resources to do it efficiently in 1 week.

## **STEP 1. Initialise Github**

To initialise Github, it is necessary to go to https://github.com. Once in the github page, you have to log in or sign in into the platform.

Step 1: Create personal account	Step 2:         Choose your plan	Step 3: Tailor your experience
Create your personal account		You'll love GitHub
Jsemane		Unlimited collaborators
This will be your username — you can ent	er your organization's username next.	Unlimited public repositories
Email Address		<ul> <li>Great communication</li> </ul>
		✓ Frictionless development
/ou will occasionally receive account relat /our email with anyone.	ted emails. We promise not to share	✓ Open source community
Password		
Jse at least one lowercase letter, one nun	neral, and seven characters.	

Figure 2. GitHub Sign In page

Once the Github is created, the next step is to log in the platform and create a new repository.



Figure 3. GitHub main user page

In the page of creating a new repository, you have to fill the form including a repository name, description, nature of the repository, and some files for the init (readme and licence files). Once specified this parameters, press the buton create the repository to start working.

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🧝 aolite <del>-</del>	/ d
reat repositor	y names are short and memorable. Need inspiration? How about urban-octo-spork.
Description (or	otional)
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<ul> <li>Public Anyone of Private You chool</li> <li>Initialize thi This will let your repository.</li> </ul>	can see this repository. You choose who can commit. ose who can see and commit to this repository. s repository with a README ou immediately clone the repository to your computer. Skip this step if you're importing an existing

Figure 4. GitHub Github init repository

Yo have your repository created!!!! Now, browse to the repository to start working with Github.

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Presentation	Initial documentation and Pres	sentation template		4 days ago			
Theory	Delete travis from this folder			2 days ago			
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Figure 5. GitHub repository main view

Considering the repository, the main part is the code repository. But before starting with it, we will start with the Wiki (Figure 6). The Wiki will store the sprint planning meeting, daily scrum meeting and sprint review. Moreover, it will serve also to store some ideas or additional information relevant for the project.

Nitor Corchero Rodríguez edited this page 4 minutes ago · 6 revisions	
Curso Project Management Wiki	▼ Pages 3
	Home
Fable of Contents	Sprint_1version
Ideas	Workshop_Exercise_Idea
This wiki is focused on storing the sprint planning meeting, daily scrum meeting and sprint eview.	+ Add a custom sidebar
Sprints	Clone this wiki locally
Sprint named "1st version"	https://github.com/UdL-EPS-
	[↓] Clone in Desktop
deas	

Figure 6. Wiki for storing the meetings minutes

### **Sprint Planning Meeting**

The sprint planning meeting will cover the agenda for passing the main issues from the backlog to the sprint backlog according to the customer requirements and feedbacks.

#### **Sprint Planning Meeting**

https://github.com/UdL-EPS-

🛃 Clone in Desktop

#### Agenda

- 1. Introduction (5-10min)
- 2. Selection of main user stories (7h max)
- 3. Conclusion (10 min)

Figure 7. Sprint Planning Minutes and Agenda

### **Daily scrum meeting**

The daily scrum meeting wiki section will cover the agenda and the main situation and actions to make successful the sprint.

### Daily Scrum Meeting (2017-09-01)

#### Agenda

- 1. Introduction (5 min)
- 2. Sprint Status (5 min)
- 3. Conclusion (5 min)

#### **Situation & Actions**

- Action 1: Issue #3 needs to be redefined.
- Situation 1: As the sprint is delayed, we need to adjust it to the current dates.
  - Corrective Action 1: Make faster features firstly and in parallel perform more heavy ones.

Figure 8. Daily Scrum Meeting Minutes and Agenda

### **Sprint Review**

This part will comprise the sprint review and customer feedback main points.

#### <sup>∞</sup> Sprint Review

- Documentation OK.
- Colors do not fit well, maybe UdL color palette could be defined.

#### Figure 9. Sprint review main aspects

Once initialising Github and underestanding main documents, lets we will start defining the general backlog (issues) and the corresponding sprints.

### **STEP 2. General Backlog**

For defining and managing the issues, we will use Zenhub (https://www.zenhub.com/). For that, we have two options:

- Chrome users: We could install the Zenhub extension (https://chrome.google.com/webstore/ detail/zenhub-for-github/ogcgkffhplmphkaahpmffcafajaocjbd)
- Rest of web users, we have the web app (https://www.zenhub.com/)

Once signed up with the Gihub account into zenhub, we can start a board based on the desired repository. With that aim, the chrome users could click on the "board" button in the repository page. The others we have to select the desired project from the project list in the Zenhuub webpage.

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Figure 10. Project selection in Zenhub

The product backlog or "New Issues" appears in the board, so, we need to fill it with the corresponding issues. For that, we have to create new issues indicating the title and the description. The more, we have to specify the label (action of the activity) and the estimation for doing the task. The importance of the task could be determined by the order of the tasks inside the list.



Figure 11. Create new issue for the project management

After this, the board "new issue" contains the desired task to be performed.



Figure 12. Product Backlog list

## **STEP 3. Sprint Backlog**

Similar as the product backlog, the sprint backlog (or simply backlog) contains the issues with asignees and milestones.

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Figure 13. General Overview of the board

For creating a milestone, we have to click on the button "+" at right of "new issue". Once clicked, we select "milestone" to create a new one and, the milestone form appears. In there, we select the title and the description at same as the duration. Once created, We have our first sprint defined!!!

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			24	25	26	27	28	29	30			

Figure 14. Create new milestone

Just now, we need to assign the tasks to the milestone (task from the sprint backlog) and we have our sprint planned and ready.

## **STEP 4. Sprint Planning**

The sprint planning corresponds with the issues associated to the milestone. To manage the sprint there exist burn down and velocity graphs just to see how the sprint is going on. These graphs are generated automatically in the Report part of the Zenhub tool.



Figure 15. Burndown Report of the sprint

## **STEP 5. Product Release**

The product release make reference to the end of the sprint and teh presentation of a prototype to the customer for getting their feedback. In the one hand, Zenhub provides an element to manage the product releases and see if the product of the sprint is ging on time or delayed.

#### **1st version release**

Initial definition of the theory

Start date: Aug 30th, 2017 Desired end date: Sep 1st, 2017



Figure 16. Product Release management graph

To enable this option, we have to create a new release (similarly as the milestone) and assign the issues to that defined release (following similar steps and in the milestones).

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Figure 17. Creation of a new Release in Zenhub

On the otehr hand, once the sprint is finished, we have to create the release with the corresponding code. For that, Github provide us the necessary tools. For creating a new release, we have to go the repository main page and click on the "Release" tab. Omce there, we will click on "new release" and fill the corresponding form.

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♦ Code ① Issues 6 ⑦ Pull requests 0	Insights 🕶
Releases Tags	
v1.0-beta.1	own supported         Tagging suggestions         It's common practice to prefix your version names with the letter v.         Some good tag names might be v1.0 or v2.3.4.         If the tag isn't meant for production use, add a pre-release version after the version name. Some good pre-release versions might be v0.2-
	alpha or v5.9-beta.3. <b>Semantic versioning</b> If you're new to releasing software, we highly recommend reading about semantic versioning.
Attach files by dragging & dropping or selecting them.	
Attach binaries by dropping them here or selecting them.	

Figure 18. Creation of a new Release in Github

Once completed the form, we click on the button and then, a code zip will be created with the master branch code. This will apear in the releases list.



Figure 19. Releases page once the release has been created

# Conclusion

During this part of the course we have learn:

- Agile basics
- Agile implementation in Github
- Agile implementation in Zenhub

## References

Szalvay, V. An Introduction to Agile Software Development (2004). http://www.danube.com/docs/ Intro\_to\_Agile.pdf