

## **Scrum**

The Scrum framework was used during project development, with small changes. The daily scrum meetings haven't been written down, as they were really short meetings, and sometimes we had them multiple times a day if we felt the need. We quickly realised that the product backlog does not contain all the tasks that we have to do, that's why the product backlog tasks and the sprint back log tasks differ. Because of this difference, our burndown chart did not represent the actual progress during the development, it is more like an estimate. Only those tasks were subtracted from the total story points that were listed in the product backlog as well.

### **Scrum roles**

#### **Product owner:**

Product owner is responsible for providing consistent vision of the system to the team. His additional responsibility is to suggest priorities in product backlog. The product owner during the project was Akos Faddi.

#### **Scrum master:**

Scrum master is a person responsible for project management. His main responsibility is to make sure that team follows practices of the scrum methodology. In order to do that he is organizing daily scrum meetings to ask each developer team member following questions:

- What will you be doing today?
- What did you do yesterday?
- Do you need help with anything?

This way, the scrum master can keep track of the progress of the developer team and notice and solve challenges. The scrum master must make sure that the team is working on its full potential. Additional responsibility of the scrum master is to discuss with the product owner the current situation of the project to avoid misunderstandings. The product owner during the project was David Kabaly.

#### **Developer team:**

Each member of the developer team has a personal responsibility to fulfil requirements of a given task and to not overestimate or underestimate own abilities and report to others any obstacle that appears during development. The developer team during this project was Akos Faddi, Krzysztof Majcher and David Kabaly.

## Product backlog

The product backlog contains the tasks that we set as our goals for this project. The story points represent the expected hours of work to complete the tasks.

Product backlog	Story points	Status
ER diagram and description	7	Done
Package diagram	3	Done
Architecture diagram	1	Done
Class diagrams	6	Done
Interaction diagrams	5	Done
UI design	4	Done
UI design description	3	Done
Identify design patterns and describe them	2	Done
Introduction	2	Done
MosCow	5	Done
Requirement description	1	Done
Domain model and entities	8	Done
Use case documentation	8	Done
Background description	2	Done
Implementation documentation	20	Done
Test documentation	15	Done
Appendix	10	Done
Project report closing chapters	15	Done
Process report	25	Done
Database implementation	5	Done
Menu implementation	5	Done
Basic server setup	30	Done
Connect client and server	15	Done
Game UI implementation	5	Done
Core mechanics implementation	55	Done
SinglePlayer Api	15	Done
SinglePlayer Client	10	Done
Daily word API	15	Done
Daily word client	5	Done
Scores server	20	Done
Scores client	20	Done

Account management client	15	Done
Account management Server	15	Done
FriendList client	5	Done
FriendList Server	8	Done
Cache the data on the client	30	Not implemented
Tutorial	20	Not implemented
Achievements Client	20	Not implemented
Achievements Server	8	Not implemented
Hints	10	Not implemented
Multilanguage client	10	Not implemented
Multilanguage Server	10	Not implemented
History tab client	20	Not implemented
History tab server	10	Not implemented
Animations	5	Done
Testing	20	Done

## Sprints

Each sprint we selected some of the tasks from the product backlog and added them to the current sprint's sprint backlog. Most of the sprints were 1 week long.

### Sprint 1: 20.10.2019 – 22.10.2019

**Planning:** This sprint is shorter than the other ones, because we agreed that each Wednesday will mark the start of a new sprint, as this is the day when we get feedback from our supervisor. The goal during this sprint is to have some of the diagrams that give a better understanding for the overall system.

Sprint backlog	Story points	Status
ER diagram and description	7	Done
Package diagram	3	Done
Architecture diagram	1	Done

**Sprint review:** The objectives for this were achieved.

**Sprint retrospective:** We worked well together, but it was a short sprint and there were not many tasks.

## **Sprint 2: 23.10.2019 – 29.10.2019**

**Planning:** For this sprint, we have to fix some of diagrams that were considered done in the previous sprint. The rest of the sprint will focus on the diagrams that could help with the architecture of the system.

Sprint backlog	Story points	Status
UI design	4	Done
Package diagram fix	0.5	Done
ER diagram description	1	Done
Architecture diagram fix	0.5	Done
Client-side class diagram	3	Done
Server-side class diagram	3	Done
Design patterns description	2	Not Implemented
Description of technologies	3	Not Implemented
Sequence diagrams	5	Not Implemented

**Sprint review:** The fixes and majority of the diagrams were completed, the remaining tasks are close to finish, but they will have to be moved to the next sprint.

**Sprint retrospective:** We should dedicate more hours to the bachelor

## **Sprint 3: 30.10.2019 – 05.11.2019**

**Planning:** In the previous sprint we finished most of the diagrams, so we are ready to take on some tasks that are about implementation. At first, we need the core of the app to be done and later we can extend it with everything else.

Sprint backlog	Story points	Status
Client-side class diagram fix	3	Done
Server-side class diagram fix	6	Not implemented
Design patterns description	2	Not implemented
Description of technologies	3	Not implemented
Sequence diagrams	5	Not implemented
Database implementation	5	Done
Change UI design	2	Not implemented

Menu implementation	5	Not implemented
Resources to letters	25	Not implemented
Letters to word	20	Not implemented
Giving points to the user	10	Not implemented
Setup basic API on server	25	Not implemented
Client connection to the server	15	Not implemented
Save data to the DB	5	Not implemented

**Sprint review:** A most of the implementation is going nicely, but they cannot be considered done.

**Sprint retrospective:** Too many tasks have been included in this sprint

#### **Sprint 4: 06.11.2019 – 12.11.2019**

**Planning:** In the previous sprint we included way too many tasks, so most of those tasks are simply just moved to this sprint.

Sprint backlog	Story points	Status
Server-side class diagram fix	3	Not implemented
Design patterns description	2	Implemented
Description of technologies	3	Implemented
Sequence diagrams	5	Not implemented
Change UI design	2	Not implemented
Menu implementation	5	Implemented
Numbers to letters	25	Implemented
Letters to word	20	Not implemented
Giving points to the user	10	Not implemented
Client connection to the server	15	Not implemented
Setup basic API on server	25	Implemented
Save data to the DB	5	Not implemented
Game UI	5	Implemented

**Sprint review:** The implementation is going well, and we managed to squeeze in some documentation too.

**Sprint retrospective:** Judging sprint points needs to be improved, but distributing the tasks is going great.

### **Sprint 5: 13.11.2019 – 19.11.2019**

**Planning:** Some of the implementation was missing in the previous sprint, those are added to this sprint and a few new tasks are added as well in case the previous tasks are finished, or someone needs something to do.

Sprint backlog	Story points	Status
Save data to the DB	5	Not implemented
Research Spring, JPA and DAO	10	Done
Api for singleplayer save and retrieve	15	Not implemented
Sequence diagrams	5	Done
Implement animation	5	Done
Fixing Toolbar for fragments	3	Done
Reviewing codes	7	Done
Letters to word	20	Done
Word Validation	5	Done
SinglePlayer Client	10	Not implemented
Friend list with recycle view	5	Not implemented

**Sprint review:** The core mechanics are finally done, documentation is going well, now the focus will need to be on connecting the different system parts.

**Sprint retrospective:** Judging the sprint points will need to be improved further.

### **Sprint 6: 20.11.2019 – 26.11.2019**

**Planning:** The focus needs to be on connecting the system elements, but a few documentation elements have been added, in case we have some extra time.

Sprint backlog	Story points	Status
Save data to the DB	5	Done
Api for singleplayer save and retrieve	15	Done
Setting menu	5	Done

Loading screen	5	Done
Friend list with recycle view	5	Done
Retrofit research	5	Done
Basic retrofit mvvm implantation	25	Not implemented
Project introduction	2	Done
Rich picture	5	Not implemented
MoSCoW prioritization	5	Done
Requirement description	1	Done
Use case Pre description	1	Done
SinglePlayer Client	10	Done
MVC and MVVM	12	Done

**Sprint review:** A lot of things can be considered done, the ones that are not finished yet are going to be moved to the next sprint.

**Sprint retrospective:** The tasks should be distributed a little bit better. There were members who got a lot of tasks regarding documentation and not much about implementation.

### **Sprint 7: 27.11.2019 – 03.12.2019**

**Planning:** Implementing new features and we should improve the already existing code quality. Some documentation was added as well.

Sprint backlog	Story points	Status
Research spring security	5	Done
Api for login and registration	15	Done
ProjectReport - Domain entities	4	Done
ProjectReport - Domain model	4	Done
Score recycle view implementation	5	Done
Basic retrofit mvvm implantation	25	Not implemented
Rich picture	5	Done
Acronyms and abbreviations	3	Done

Choice of technologies description	1	Done
Dimensional modeling	5	Done
DAO and dependency injection	8	Done

**Sprint review:** Almost every task has been completed, very satisfied with the results.

**Sprint retrospective:** Only a few more sprints left, we should include more documentation tasks.

### **Sprint 8: 04.12.2019 – 10.12.2019**

**Planning:** This sprint is going to be the last sprint where we are writing any code, because the next one should focus on documentation only, so every feature that we want in the system should be implemented now.

Sprint backlog	Story points	Status
Update use case documentation	4	Not Implemented
Basic retrofit mvvm implantation	25	Done
Retrofit for score management	20	Done
Scores API	20	Done
Retrofit for account management	20	Done
Account management API	15	Done
Update pattern documentation (dao, adapter)	7	Not Implemented
Api to update profile information	3	Done
Api to get daily word	3	Done
Api for friend list	8	Done
Profile for client	15	Done
Daily challenge for client	7	Done
Friend list for client	7	Done
Update ER description	1	Not Implemented
Background description	2	Done
Change rich picture	3	Done
Solid principle	3	Done



Analysis intro	1	Done
UI design documentation	3	Not Implemented
Server technologies	2	Not Implemented

**Sprint review:** All code related thing that had to be implemented is done, some extra documentation is done as well.

**Sprint retrospective:** The team did well, lot of tasks have been completed.

### **Sprint 9: 11.12.2019 – 20.12.2019**

**Planning:** This is the last sprint, so it should focus entirely on the documentation. It is a little bit longer than the other sprints, because the remaining time wouldn't be enough for a normal sprint.

Sprint backlog	Story points	Status
Update use case documentation	4	Done
Update pattern documentation (dao, adapter)	7	Done
Update ER description	1	Done
UI design documentation	3	Done
Server technologies	2	Done
Implementation documentation	20	Done
Test documentation	15	Done
Revision of project report	65	Done
References, table of contents, etc	10	Done
Appendix	10	Done
Project report closing chapters	15	Done
Process report	25	Done
System features	3	Done
Small chapters	5	Done

**Sprint review:** Everything is done, ready to hand in.

# Burndown chart

