| No. | Planned action | Planned outcome | Estimated time | Target date | Criterion |
| --- | --- | --- | --- | --- | --- |
| 1. | Brief chat with the client | Discussing the problem and possible solutions for it. | 30 min | 2017.09 | A |
| 2. | Analysing the problem | Gathering information about the problem and creating initial ideas for the solution | 2 h | 2017.09 | A |
| 3. | First discussion with the advisor | Confirming the topic of the IA based on the problem. | 1 h | 2017.10 | A |
| 4. | First consultation with the client. (Interview in the Appendix 1.) | Further discussing the problem, making clear goals for the program. | 1 h | 2017.10 | A |
| 5. | Visualising client’s ideas. | Creating the first visual prototype. | 1.5 h | 2017.10 | B |
| 6. | Designing the structure of the application | Drawing diagrams and creating possible algorithms for the program | 2 h | 2017.10 | B |
| 7. | Presenting the prototype for the client | Discussing the prototype with the client and making possible adjustments. | 1 h | 2017.10 | B |
| 8. | Creating data flow diagram | Clearing the vision for the data flow in the application and constructing the data flow diagram. | 1 h | 2017.11 | B |
| 9. | Database structure design | Constructing a database structure diagram. | 30 min | 2017.11 | B |
| 10. | Creating a test plan | Constructing the test plan based on the client’s recommendations. | 1 h | 2017.11 | B |
| 11. | Choosing a programming platform | Learning the functions of the platform | 3 h | 2017.12 | C |

| No. | Planned action | Planned outcome | Estimated time | Target date | Criterion |
| --- | --- | --- | --- | --- | --- |
| 12. | Creating the necessary classes | Creating the most important parts of the application and the basic navigation | 4 h | 2018.02 | C |
| 13. | Connecting the classes | Implementing basic functions and methods. | 6 h | 2018.03 | C |
| 14. | Connecting application to the database | Connecting application to the real-time database *Firebase* and learning the basic functions of the database. | 6 h | 2018.05 | C |
| 15. | Implementing the prototype functions functions to the application involving the connection to the database. | Implementing prototype functions to the application, storing and retrieving data from the database. | 8 h | 2018.09 | C |
| 16. | Implementing the authentication to the application | Implementing authentication in the app using Firebase SDK tools | 4h | 2018.10 | C |
| 17. | Implementing the sorting algorithm | Implementing the Bubble sort algorithm in the application | 2 h | 2018.12 | C |
| 18. | Alpha testing | Carrying the Alpha testing of separate parts of the application with the IB computer science classmate | 1 h | 2019.01 | C |
|  |  |  |  |  |  |
| 19. | Beta testing | Carrying the Beta testing of the whole application with the help of a classmate which volunteers in the local philharmonic | 1.5 h | 2019.01 | C |
| 20. | Fixing small errors according to the classmates’ feedback | Errors are fixed due to the feedback | 2 h | 2019.01 | C |
| 21. | Client acceptance testing | Client tests the program and gives the feedback | 2 h | 2019.02 | C |
| 22. | FIlming a video | Video, which shows the functionality of the application is produced | 5 h | 2019.02 | D |
| 23. | Third meeting with a client (Appendix 3) | Discussing about evaluation of the program, further development and final implementation of the program. | 2 h | 2019.03 | E |