

SeGaBu

Project Plan

Version 1.0

Version history

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1 Project Overview and Targets

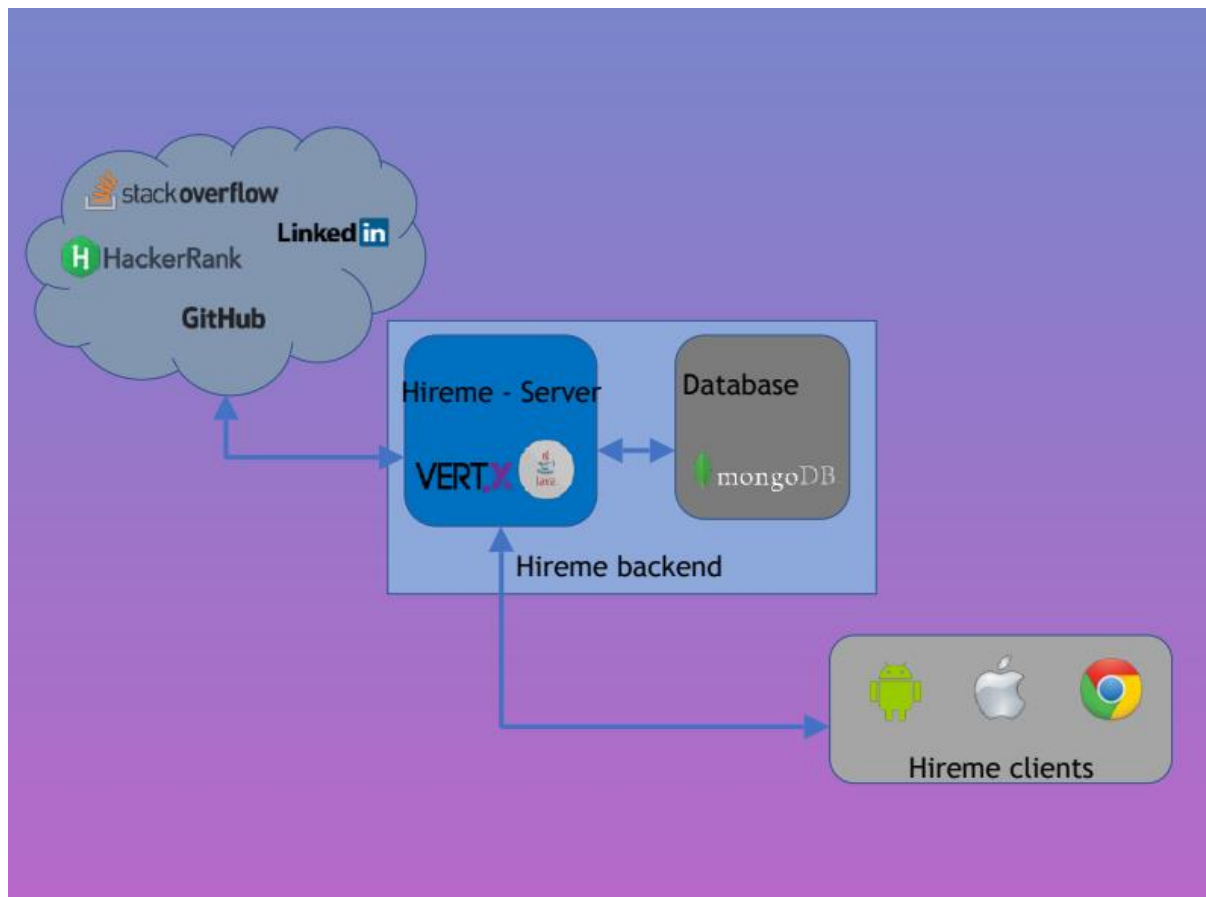
1.1 Assignment and Purpose

This project is a part of SeGaBu (Serious Games for Business and Education) project which was launched in 2016. Customer of the project is OASIS (Oulu Advanced Research on Service and Information Systems) at University of Oulu. Main purpose behind this project is to continue development of the existing application platform, Hire.me, which was originally developed in 2016. Hire.me is a gamified application platform aiming to help unemployed people find jobs in their own field of expertise. The application tailors users custom views of the available jobs fitting with the skill descriptions that users provide.

According to the original project assignment, the target was to develop gamified mentor and peer support features connected with existing Hire.me application. However the kick-off meeting with the customer and following meeting with the developer Ilkka Hietaniemi brought up some additional information related to project, causing some changes to original assignment. After these changes the assignment was re-organized and the new target is to continue developing second version of the existing Hire.me application, first by fixing bugs, and after that continue by implementing new application features. The main purpose of this project is to have an improved version of Hire.me application that can be tested in MegaMatchmaking 2017 recruitment event November 14th by Business Oulu. Complete project assignment can be found as an appendix.

Development of the Hire.me application will be done only for the Android platform, so all other mobile platforms will be excluded from this project. Primary target of the development is the client side of application, so server side will be left for smaller attention. However server side is not fully excluded from the project, since there might be some work done for that also. Another thing that will be in smaller part within scope of this project is testing. Testing is limited mainly on heuristic evaluation and internal usability testing within the project group. Larger-scale usability testing will be executed by the customer.

Image below shows the context in which we are contributing within this project. As mentioned in previous, our primary focus is on the Hire.me clients shown in bottom right corner of the image. From the image can also be seen that the clients are communicating with Hire.me backend, which in turn communicates with external websites such as LinkedIn and Stack Overflow. Backend and external websites are not primary targets within this project, but development for the backend might be possible.



1.2 Results and Delivery

The results and deliverables are listed in the table below. The additional deliverables may show up as the project progresses. In that case, the steering group members will be informed.

Result/Deliverable	Description	The Means of Delivery
Project Plan	Accurately explained project implementation with the appendices related to the project plan	Pdf-files for the steering group members
Heuristic Evaluation	All the bugs found in heuristic evaluation	Pdf-file for the steering group members
Existing Expertise	Rigor research articles related to the project	Pdf-file for the steering group members
Design Plan + Documentation	All documentation created for the new features of the application or due to change of existing features or bug fixes	Pdf-files for the steering group members
Test Plan and Test Results	Test cases and results for internal application testing	Pdf-file for the steering group members

Result/Deliverable	Description	The Means of Delivery
Mid Report	Project status report approximately in the middle of the project and all the appendices related to that project phase	Pdf-files for the steering group members
Testing Day Application	Fully working, internal tested application to download	https://github.com/ for the steering group members
Final Application	The source code of the result application of the project with all the necessary files and libraries	https://github.com/ for the steering group members
Final report	Final status report of the project and all the appendices related to the project	Pdf-files for the steering group members
Managerial Material	All project managerial materials wrapped up into one zip-file: project plan, mid and final reports, other SG meeting materials (e.g. invitations and minutes)	Zip-file for the steering group members

1.3 Dates of Deliveries and Result Reviews

Review (phase)	Result/Deliverable	Date	Participants	Issues and Practices
I	Project Plan	w38, 24th of September → likka, w39, 26th of September → SG	likka Paajala, Juho Mattila, Ilkka Hietaniemi, Eeva Leinonen, Aryan Firouzian	In the end of Phase I, reviewed by likka before sending to SG (possible changes may occur), reviewed by the SG members, feedback from the SG members during the 1st SG meeting, concentration on the goals of the project implementation, plan will be accepted or accepted with changes

Review (phase)	Result/Deliverable	Date	Participants	Issues and Practices
I	Existing Expertise	26th of September	likka Paajala, Juho Mattila, Ilkka Hietaniemi, Eeva Leinonen, Aryan Firouzian	In the end of the Phase I, reviewed first by likka and after that also by the SG, possible changes to be made (depends on feedback)
II III IV	Design plan + documentation	When necessary	Juho Mattila, Ilkka Hietaniemi, Eeva Leinonen, Aryan Firouzian, likka Paajala	During Phase II, Phase III or Phase IV if there is a need for re-design or design for additional features, reviewed by the SG members, possible changes according to feedback, documentation ready before closing the project
II	Test plan and Test Results	w43 (plan & results so far), w49 (final results)	Juho Mattila, Ilkka Hietaniemi, Eeva Leinonen, Aryan Firouzian, likka Paajala	During Phase II, review before the 2nd SG meeting, discussion and possible changes according to feedback in 2nd SG meeting, in the end of the project final test results for the possible next project group to continue developing the application
II	Mid Report	w43	Juho Mattila, Ilkka Hietaniemi, Eeva Leinonen, Aryan Firouzian, likka Paajala	In the end of Phase II, reviewed by likka before sending to SG (possible changes may occur), reviewed by the SG members before the 2nd SG meeting, concentration in the current status of the project → Is there something that needs to be fixed (e.g. goals)?
III	Testing Day Application	w45, 12th of November	Juho Mattila, Ilkka Hietaniemi, Eeva Leinonen, Aryan Firouzian, likka Paajala	During Phase III, application is provided through GitHub for the SG members

Review (phase)	Result/Deliverable	Date	Participants	Issues and Practices
IV	Final Application	w49	Juho Mattila, Ilkka Hietaniemi, Eeva Leinonen, Aryan Firouzian, Ilkka Paajala	In the end of Phase IV, reviewed through GitHub by the SG members
IV	Final Report	w49	Juho Mattila, Ilkka Hietaniemi, Eeva Leinonen, Aryan Firouzian, Ilkka Paajala	In the end of Phase IV, reviewed by Ilkka before sending to SG members, review before the 3rd SG
IV	Managerial Material	w50	Juho Mattila, Ilkka Hietaniemi, Eeva Leinonen, Aryan Firouzian, Ilkka Paajala	All managerial materials of the project will be sent to SG members through email as one zip-file after the project has been officially closed together with the closing words by the project manager

1.4 Acceptance of Delivery and Project Reviews

Review	Date	Acceptance
I	w 39	Project's status together with the Project Plan to be reviewed and accepted. Test Plan based on the review results.
II	w 43	Project's status together with the Mid Report to be reviewed and accepted.
III	w 49	Final Application to be reviewed and accepted. Project's status together with the Final Report and Test Results to be reviewed and accepted.

1.5 Quality Targets

Our long-term goal is to provide a flawless version of Hire.me application which means that functionalities of the application, can be performed reliably in different situations with different Android versions. The customer has ordered a testable application by mid-November so that they are able to make a large-scale usability testing for the application. It means there is not much time for development so it is important to focus on getting the most important development targets done with good quality.

The quality of the product comes before new features. Currently, the application's UI is in a good shape and the application contains several functionalities but many functionalities are not activated and they contain defects. There could be a lot of interesting ideas for the new features but for reaching the fully working and testable application by 12th of November there will be a lot of work to activate and fix the already existing functionalities. Also, we will start adding some new features by mid-November. Final application as MVP will be delivered to customer when the project ends.

Before starting the development process, heuristic evaluation of the current application was done. From the evaluation we gathered a list of defects that must be fixed before implementing new features. Also, a test plan document of all functionality test cases will be done before starting to execute test cases weekly. The functionality testing will be carried out continuously throughout the development process. From test cases, the quality level of the application can be measured by calculating how many test cases are passed.

Considering the process quality, the project should be carried out within the limits of the project resources which means that resources will not exceed more than +/- 20h of the planned total for each project member. Also the schedule should not delay but we must be prepared for unexpected situations that can cause a small delay. However, for the schedule the maximum delay will be 5 working days.

Results/Deliverables

Result/Deliverable	Quality Target	Measurement
Testing Day Application	Stable and bug free application	UX-testing will be performed in recruitment event MegaMatchmaking 2017. Application should not contain any functional bugs when delivered to the customer.
Final Application as MVP	Good UX Working	The UX test results are as "expected" or more. Will be defined in "Test planning" task. All the functional bugs have been fixed and retested as "work as expected". Will be defined in "Test planning" task.

Process

Quality Target	Measurement
Within the limits of the project resources	Resources (workload) will not exceed more than +/- 20h of the planned total for each project member.
Within the schedule	For the schedule the maximum delay is 5 working days.

1.6 Project Success Criteria

Table below shows the description of the success criteria for this project. Success is divided into three different levels which are acceptable, good and excellent. For all three levels, table presents measurement criteria, which is used to validate the success.

Success	Measurement
Acceptable	Bugless version of the current application.
Good	In addition to previous, features for user profile creation, work category selection and job recommendation have been implemented.
Excellent	In addition to previous, extra features (e.g. mentor and peer support) have been implemented.

2 Project Phase Plan and Schedule

This project will be carried out by using SCRUM principles which means that the project proceeds on weekly sprints having 11 sprints in total. Meetings with the project group will be arranged at least once a week where the project state and further plans are discussed and reviewed. There is a retrospective and sprint meeting every Tuesday for the project group where the customer participation is highly desirable so that PG is able to keep the customer updated about the project state and also make sure that the project is going on a right direction. Also, the status check will take place remotely by using WhatsApp's group conversation every weekday at 16:00. In WhatsApp discussion, each team member shares what she/he has done and what is coming next while other members can comment their opinions.

The project contains four phases; Phase I project start and planning, Phase II development, Phase III developing extras and Phase IV testing and accepting. In SG meetings, the customer has an opportunity to inform the project group if they see that the project is going on the wrong direction. For example, if an important feature should be developed instead of other actions, the customer may demand it. The original project plan will be updated and clarified at each milestone due to feedback given in SG meetings.

The project contains several tasks and SCRUM approach will help developing and testing the application in parallel. It is important that testing is performed parallelly with new feature implementation so that the new functionalities won't break the application. In scrum meetings the project group is able to detect a non-effective working methods immediately and modify methods to be more effective in the future.

Phase	Description	Deliverables & Decisions	Milestone
Phase I	Project start and planning + literature review	Project Plan => Project start (official) & Features in the application (& initial features to be implemented in the Final Application), Existing Expertise report	1st SG meeting
Phase II	Development of the application	Test Plan Bug fixed application Mid Report => Continuing the project & implementing the final features for the Testing day	2nd SG meeting
Phase III	Ready for testing day, developing extras	=> In the SCRUM meeting with the client the application is considered ready for UX testing	Possible extra SG meeting
Phase IV	Testing and accepting	Possible design documentation Completed application as MVP Final Report => Project results & project closing (official) defined	3rd SG meeting
End	Closing	All defined closing tasks done and project declared officially closed	

3 Project Tasks

Project management tasks:

1. Project planning: Task for planning the project in terms of creating general plan, timetable and workload for the project. Results/deliverables: Project Plan
2. Project meetings: Leading, timing and suggesting project meetings for the project team
3. Reviews: All tasks relating to the review meeting based on project results. Results/deliverables: Review of the results
4. SG Meetings: Tasks related to steering group meetings such as preparations and invitations. Result/deliverables: Mid & Final Reports + all meeting materials
5. Other Tasks: All other non-specified project management tasks

Design:

1. All tasks related to the designing the application (architecture, UI, UX, functions, features, etc). Details will be clarified during sprint planning sessions. Results/Deliverables: Design Plan + documentation

Testing:

1. Test Planning: All tasks, such as test case design and test plan review, related to the planning of the functional testing while designing the application and preparing the application. If time and resources allow, unit testing will be planned for the application. Results/deliverables: Final Test Plan document (including possible attachments)
2. Heuristic Testing: Testing the application for bugs left by previous Project development group. Purpose is to find and document bugs in order to fix them at the coding phase. Results/deliverables: List of bugs
3. Functional Testing: Executing test cases and documenting test results. Test cases should be executed and reported weekly in the retrospective meeting. Results/deliverables: Weekly reports + Final Test Report document (Including possible attachments)
4. Unit Testing: If there is time and resources left, unit testing will be executed to the program code. Test cases should be reported. Results/deliverables: Unit Test Report (Including possible attachments)

Coding:

1. Debugging: Fixing the bugs that were found in heuristic testing phase and those reported by the client are fixed so that the application is fully functional. Result/deliverable: Stable and bug free application
 - a. Application update views too soon, showing incorrect values
 - b. Save instance functionality is missing
 - c. Show MiniCV button does not work
2. Implementing features that are missing: After fixing the identified faults, the task is to finish features that were not completed by the previous project team. Results/deliverables: Basic functional application

3. Preparing application for testing day deadline: Fixing, testing the application for the testing day in order to ensure that the application is functional and testable at the recruitment event. Result/deliverable: Stable and functional application
4. Adding desirable features: Additional features requested by the clients are added to the application based on their priority and time available to implement them.
Results/deliverables: Expanded version of the application
 - a. User profile creation: User profile creation and saving functionality is added for client and the server.
 - b. Allow user to select work that interest them and recommend them similar jobs: Selecting work categories that interest should be done at profile creation. Adding this functionality to the application. Results/deliverables: Client and Backend supporting this feature
 - c. Peer communication and support system: Add a feature to the client and the server that supports communication between clients. Results/deliverables: Client and Backend supporting this feature
5. Final application: Last features are added and tested and the documentation will be completed in order to application delivery for the deadline. Results/deliverables: Final version of the application, documentation

The tasks related to software development, testing and design are shared in a more accurate level among the project group members in the beginning of each sprint ensuring that the project remains within the planned timetable.

4 Project Resources and Workload

See appendix "Resource Usage".

5 Project Facilities

5.1 Working Premises

Table below lists all the premises reserved for this project. Also the purpose of each premise is presented.

Premise	Purpose
TS 134	For meetings between the project members
Tellus, meeting rooms	Rooms reserved for meetings with the customer
TS 335	For the 1st steering group meeting

5.2 Hardware and Other Equipment

Table below lists all the hardware and other equipment needed for this project. Also the purpose and stakeholder is presented for each item.

Hardware/equipment	Purpose	Stakeholder
Mobile phones	Communication, testing	Project team
Laptops	SW development, communication, project management, documentation	Project team
Access control card	Access to working premises in University of Oulu	Project manager

5.3 Software

Table below lists all software available for the project. Also the purpose and owner of the license is presented for each software.

Software	Purpose	Licence
WhatsApp	Communication	Free
Gmail	E-mail	Free
Android Studio	Development	Free
proto.io	Mockups	Free
FireAlpaca	Graphics	Free
Git	Version control	Free
GitHub	Code repository	Student license, PG
Google Drive	Documentation, file sharing & storing	Free
IntelliJ IDEA	Java IDE	Free
Jenkins	Continuous integration	Free
Docker	Deployment	Free
MongoDB	Database	Free
Vertx	REST APIs	Free

6 Project Stakeholders and Organisation

6.1 Stakeholders

Organisation	Expectations/priorities
OASIS Research Group/SeGaBu	Testable version of the application to be used in the recruitment event 'MegaMatchmaking 2017' in Oulu City Theatre 14th of November
Degree Programme	Real-life project work for the students, learning outcomes
Project Group	Professionalism in real-life software project, expertise in subject area
End Users (job seekers in ICT field)	Aid for job seeking

6.2 Steering Group (SG)

Name	Organisation	Role (and expertise)
Juho Mattila	Degree Programme	The client of the project. Expert in software business. Client and Product Owner in SCRUM.
Ilkka Hietaniemi	Degree Programme	The client of the project. Expert in software engineering. Client in SCRUM.
Ilkka Paajala	OASIS research group, Doctoral Student	The supervisor of the group. Expertise in Information Technology, Information Management, Knowledge Management.
Eeva Leinonen	OASIS research group, Doctoral Student	The client of the project. Expertise in Human-computer Interaction, Usability and User Experience.
Aryan Firouzian	OASIS research group, Doctoral Student	The client of the project. Expertise in Human-computer Interaction and Information Systems.

6.3 Project Group (PG)

Name	Role and responsibilities (and expertise)
Anni Ahonen (substitute Joni Pennala)	Project manager (PM), Scrum Master, Testing
Joni Pennala (substitute Anni Ahonen)	Team member responsible for Graphical Design and UI Testing and additional programming
Aatos Lang (substitute Toni Närhi)	Team member responsible for Programming (programming, peer reviewing and testing)
Toni Närhi (substitute Aatos Lang)	Team member responsible for Programming (programming, peer reviewing and testing)

6.4 Supplier(s) (SP)

Name	Organisation	Date & Delivery

6.5 Other expert(s) (OE)

Name	Organisation	Expert
Vinoth Selvaraj	Degree Programme	Backend developer, w 40 ->

7 Communication Plan

7.1 Contact information

Name	Role	E-mail, mobile, skype, etc.
Anni Ahonen	PG, PM, Scrum master	ahonen.a.k@gmail.com , tel. 044 577 5005, Skype: Annizio
Joni Pennala	PG, UI designer, Tester	jeni.pennala@student.oulu.fi , tel. 050 522 1581
Aatos Lang	PG, Software developer	aatos.lang@student.oulu.fi , tel. 045 676 6015
Toni Närhi	PG, Software developer	t.narhi@dnainternet.net , tel. 040 743 6519
Juho Mattila	SG, Product owner	juhoe.mattila@gmail.com , tel. 040 552 9386 Skype: juhoe.mattila
Ilkka Hietaniemi	SG	ilkka.hietaniemi@student.oulu.fi
Eeva Leinonen	SG	eeva.leinonen@oulu.fi
Aryan Firouzian	SG	aryan.firouzian@oulu.fi
Ilkka Paajala	SG, supervisor	ilkka.paajala@oulu.fi
Vinoth Selvaraj	OE	selvaraj.vinoth@gmail.com

7.2 Formal Reports

Report	Stakeholder & Timing	Delivery
Project Plan	SG I, latest 26th of Sept	PDF, email
Mid Report	SG II, latest 24th of Oct	PDF, email
Final Report	SG III, w49	PDF, email

7.3 Internal reporting and communication

What	Who & When	How
Weekly hours used	PG members report weekly to PM	Adding the used hours to Resource Usage sheet in Google Sheets
Status of tasks	All PG members do this weekly	In Resource Usage Sheets a short explanation of the status of those tasks you are responsible

7.4 Meetings

7.4.1 SG Meetings

During this project there will be at least three steering group members held. If there is a need for the extra steering group meeting, that will be held in week 44-45 (time will be fixed together with the SG members). The meetings take place soon after phase results are reviewed and ready to be accepted in the meeting. During the meeting, the steering group will decide about the future of the project based on the results so far.

Meeting	Timing	How
SG I	w39, 28th of September at 2-4 PM	Project Plan & Minutes of the Result Reviews
SG II	w43, 26th of October at 2-5 PM	Mid Report & Minutes of the Result Reviews
SG III	w49	Final Report & Minutes of the Result Reviews

7.4.2 Other Regular Meetings

Meeting	Timing	How
Sprint Planning & retrospective, code review with PO	Every week, on Tuesdays starting at 3 PM	Meeting at TS 134, review of the implemented changes, planning the tasks for the next sprint
Daily Scrum	Every day, starting 29th of September	WhatsApp conversation with PG members at 4 PM, status walkthrough

8 Important Standards and Practices

Topic	Description
Project management	TOL manual and templates will be used in project management tasks.
Research	Literature review will be used to gather a background knowledge of the project topic.
Filing	Features of Google Drive will be used for storing the project management documents, test plans and test results.
Version control and management	Functions of Git will be used for the software version control and its management.
Backups	The project doesn't require manual backups because documents are saved to Google Drive and the program code is saved to GitHub.
Heuristic testing	Jakob Nielsen's heuristic evaluation methods will be used to find bugs and issues from the application.
Functional testing	Principles of functional testing and regression testing will be used to perform testing of the application.
Unit testing	If time and resources are available in phase IV, unit testing will be carried out by using JUnit or other similar unit testing tool.
SCRUM	In this project the Scrum approach will be slightly modified <ul style="list-style-type: none"> - the features requested by the client together with the priorities are kept in the Product Backlog - Sprint Backlogs will be prepared together with the client at the beginning of each sprint - instead of Burndown Chart the Resource Usage template will be used (appendix 5). - the client will participate the Sprint Planning, Sprint Review and Retrospective meetings anytime possible - Daily Scrum will be organized via WhatsApp discussions each day
Handing over	All results and documents will be handed over for the client via GitHub, Google Drive and email before closing the project.

9 Risk Management

Risks found during the analysis are kept in the Risk management document and it is updated regularly since the risks are reassessed for every review. Top five risks are listed in the table below.

TOP List

Rank now	Rank previous	Risk No	Risk Name	Score now	Explanations	Done by
1.	-	1	Communication problems	8	If communication breaks down either between group and the client or within the group	PG
2.		2	Quality issues	8	If an acceptable level of quality is not achieved for the deadlines	PG
3.		3	Management issues	8	If project management fails to meet the goals	PG
4.		4	Changes to the software	6	If there is critical changes to the software that for instance break compatibility with previous version of the code	PG
5.		5	Unrealistic schedule	6	If demands do not meet the amount of resources needed to complete the task in a given timeframe	PG

Appendices

1. Project assignment
2. Results and Delivery
3. Schedule
4. Tasks
5. Resource Usage
6. Risk Management Plan
7. Heuristic Evaluation