# Project Research Document

# Project Odyssey

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## Section 1 Detailed Discussion

The project Idea I have decided to go forth with is a mentoring tool. This tool is built with companies in mind, specifically Guidewire as I will be working with them on this project. The tool will be a web-based application. The users can be added to the system by an admin. A user can have several different traits, they can be an administrator, a manager, a mentor and a mentee with the possibility of having none or all of these traits at any given time.

For administrators they have create, read, update and delete privileges on all users. Users should also be able to be taken from the likes of workday where all the companies employees have an account with their title and team information which could set up their account most of the way. A manager has the abilities to see a dashboard displaying information about his team, this information would include who is giving mentorship and who is receiving mentorship along with what subject area it is in and the duration in hours. The user enters what area they feel like they are an expert in, again this information can be viewed by the manager giving him further insight into his teams expertise. A user who wants to receive mentorship would fill in a short form which has the topic with a possible subtopic that they need mentorship on along with what time(s) suit them for these sessions. A user who wants to become a mentor would fill in an identical form but for the mentoring role.

All users are able to update their own account on new areas they feel like they have become an expert in. Someone who is looking for mentorship in a particular area could be shown a list of people who are experts in that area, a list of videos could also be shown to the user on the topic they searched these could be in-house company videos or they could be pulled from the likes of Pluralsight.

Once a match has been made with a potential mentor and mentee, the tool will then schedule a time for the two employees, each user can either accept, decline or propose a new time. After both accept a schedule the tool will then begin to track the progress of the Odyssey (This is be the journey of the mentoring). As the Odyssey goes on both users will be able to enter in milestones or achievements they hit on the timeline so when they look back on their progress they can see personal feedback. After the Odyssey finishes, both users will be asked to complete a quick survey on their Odyssey partner, this will include a rating, a text entering. This would also be something that managers can see, it will be displayed in a report.

To recommend videos, content and subject areas to users we will be implementing machine learning to gather data and with every entry train the data on all data gathered from title, location, team, expertise. As mentioned before this could then hook into the API for Pluralsight and recommend several videos potentially leading to avoiding the setup of a mentor if all was needed was a good tutorial or a topic. The tool would then ask the user was the recommendation helpful “yes” or “no”.

To generate reports and ensure managers are getting the full potential of the data entered by all users the data will be thoroughly analysed and portrayed in a meaningful way both in several graph forms and numerical data.

## Section 2 Existing Applications in this domain

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| **Product** | **Deployment** | **Action Item tracking** | **Client Management** | **Course Management** | **Goal Management** | **Mentor Matching** | **Progress Tracking** |
| MentorcliQ | Mobile & cloud | Checkmark | Checkmark | Checkmark | Checkmark | Checkmark | Checkmark |
| Graduway | Mobile & cloud | Checkmark | Checkmark | Checkmark | Checkmark | Checkmark | Checkmark |
| Wisdom Share | Installed, Mobile & Cloud | Checkmark | Checkmark | Checkmark | Checkmark | Checkmark | Checkmark |
| Together Corporate Mentorship | Cloud | Checkmark | Checkmark | Checkmark | Checkmark | Checkmark | Checkmark |
| River | Cloud | Checkmark | Close | Checkmark | Checkmark | Checkmark | Checkmark |
| MentorCity | Cloud | Checkmark | Checkmark | Checkmark | Checkmark | Checkmark | Checkmark |
| Omnify | Cloud | Close | Checkmark | Checkmark | Close | Close | Close |
| **Odyssey** | Cloud | Checkmark | Checkmark | Checkmark | Checkmark | Checkmark | Checkmark |

There is a lot of existing applications in this area, Odyssey will be built with openness in mind so that it can be brought forward and constantly updated. Some of the core features as listed above will be the same as this project but that is because these are what makes a mentoring program function. What I will be delivering is a tool that is tailored for Guidewire Software, but it could be implemented for any company. Odyssey will be unique in that it will be using the latest technologies for data analysis, machine learning user connection and communication among all its features unlike what is currently out there.

## Section 3 Platform, Technologies and Libraries

I will host the application on a AWS server, the fundamental functionality will be written in Java. I will use Java Persistence API to write to a My SQL database using the Hibernate library. I will use the Junit library for writing unit tests. For handling JSON files the use of Gson would be used. For messaging capabilities Java Messaging Service would be used.

Apache commons would be widely used as it has a vast number of applications like emails, encryption. For the data analysis and machine learning I will use Python and TensorFlow. I will be using Git Bash from my windows machine to connect with my github repository. I have created a slack workspace for communication between myself and Guidewire. For progress tracking I will be using Trello and again employees from Guidewire will have admin access to this to allow them review and add work. Containerization is something I am interested in so I will be using docker in this project.

## Section 4 The risks

This Project has been designed in a way to minimise risk, all the technologies I use are not unique in a way that would cause long term investment to change if one of the libraries or platforms is discontinued. For example, if there was a need to stop using AWS, with some minor changes we could run this on Microsoft Azure, the same will apply to all libraries used as I have researched a backup library and technology for every part of this project.

One risk that I will need to manage is a lack of communication and direction from the business needs of Guidewire. I plan to avoid this by creating a schedule of meetings and demo’s along with following the agile methodology with two-week sprints to ensure I have constant goals to achieve. One possibility is that if wanted we could host this completely on AWS using their Infrastructure to host the data base, if this was to happen the project would be too tightly coupled with AWS and would be very hard to ever change the location of it. Another risk is that all technologies I will be using are new to me, so I will be learning new languages and technologies while developing the product and this might slow me down, but this is to be expected.

Security is always a risk in IT and this project is no different. I will follow best security practices throughout to minimise risks and exposure. No high-risk information will be stored on this tool i.e. no credit card or bank details. The tool will be hosted on the cloud so we are fully dependant on it not going down, AWS has an incredible track record and the likely hood of it going down is not real concern.