**Task 1 - Trends**

Describe a trend which has happened with enterprise applications over the last two or three years. How do you see this trend influencing corporate application development? What are you doing to prepare for this trend?

* Cloud Computing, which influences app development in difference lifecycle. Eg. Load Balancing, Auto Scaling make the app horizontally scaling easily; Lambda, API gateway, Step Function make serverless app possible. This requires developer to have more devops skills. I started to use AWS in 2013, attended AWS and GCP summit, achieved 5 AWS certifications. I have done several presentations about AWS and GCP services in team meeting.
* Container, which makes creating application development and deployment environment easy. Building image will become part of the app development. I started to use Docker in 2015 for my daily development, then I tried Docker swarms, Kubernetes and OpenShift to orchestrate containers for production deployment.
* CI/CD, which automate software testing and deployment process, have already become the industry standard. I started to learn Bamboo and Jenkins in 2012, then we used Jenkins for CI.
* SOA/Microservices, which decouple the application into logically separated backend APIs and frontend. I used CXF to develop one code interface which can server both SOAP and REST API. We used Mulesoft as the API management platform. I am trying Apigee at the moment.
* Mobile app, who can control the mobile, who will control the users. Our team do not have resources to do mobile development, we bought mobile app.
* Multi language, polyglot developers are demanded in the market. Java is my main language, I also use php, ruby and python. I tried node + express to develop a website.
* Big Data and AI, Cloud computing provided the calculation power, which make Big Data and AI more promising to be applied in each industry. I am planning to learn AWS EMR, Hadoop and Spark for big data, TensorFlow and GCP machine learning API for AI.

**Task 2 - Describe Software that Delivers User Value**

Describe a product or project you worked on that delivered high value to the user. Which specific aspects did you think were critical in successfully creating value for the user?

* Project name:

APO-Academic Profiles Online, I am the designer and main developer.

* The value:

It is an application that collects and shows academic staff and PhD student research information, including their HR info, biography, publication and grants, research interest, research opportunities etc. This application provides high value that all academic, media, students and others in the world can easily find staff in the University of Sydney who has similar research interests, their research achievements or their research opportunities to be able to contact, collaborate, interview, study with them. This is the application that our Vice chancellor paid lots of attention and had the awards in ICT.

* The critical aspects:

APO used SOA/Microservice architecture. The core business logic is in the backend java API, which use CXF to allow one interface for both SOAP and REST API. APO backend API talks to many other data source or other application API to collect different information. APO application has many front ends, such as search, listing, profile page to consume the backend web services. There are many other applications consume the APO API as well.

The APO API servers are load balanced, we also have the cache layer to cache the aggregated data from different data source to have better performance.

APO has CI, auto deployment script, patrol monitoring, logging to be able to find issue and fix it quickly.

**Task 3 - Your Values**

What are your core values / principals as a software engineering professional working in a team environment and why are they important to you?

* Passionate about learning new technology. IT is the fastest moving industry, you don’t learn new things, you will fall behind. It applies to individual as well as enterprises.
* Innovation. Make new things or make existing things better is the way to create value.
* Sharing. The best way to learn and grow together in a team.
* Collaboration. Any system engineering requires collaboration as a team. Help others is helping yourself.
* Communication. The only way to clarify the requirement and be able to collaborate.
* Judgement. We need to choose the most suitable solution to move on.
* Responsible. Get each one’s work done well is the path to the final goal for the team.
* Respect others. Respect each other will build good relationship in the team and make the team more productive.