Resume of Zhou Kai

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Project experience

- ### The Messaging System

A brief introduction to the project:

It's a web service connecting three parties, integrating their services into one, and providing the service as a whole to help logistic companies. The three parties are:

1. The Port of Singapore Authority(PSA), monitors and manages the ins and outs of ships of Singapore port.
2. The Transport Module(TM), developed by our company, selling to logistic companies.
3. Growth Venture(GV) web service, another company, able to access the inner data of PSA, and we cooperate with it.

The Messaging System sends and receives messages among those three parties, thus drives the business our customers run.

My contribution to the project:

I handled the project alone with Mr. Lam my boss:

1. Mr. Lam listened to other logistic companies, as well as GV, proposed such a project, signed the contract, and assigned the project to me.
2. Mr. Lam brought me to GV and Union Services Pte Ltd(USS) to initiate the project.
3. With the help of Mr. Lam, I worked with GV, wrote down technical documents, including requirements analysis and the architecture and so on.
4. I communicated with GV and USS, modified and finalized the documents and started coding and testing.
5. While waiting for GV to be ready to do integrated testing with us, I created a Simulator of the messaging system to simulate all the three parties and thus speed up the progress of the project.
6. Implemented the Messaging System, and the product went live, now our client relied on our service.

- ### The Transport Module

A brief introduction to the project:

It's a program for logistic business, consists of Trucking, Haulage sub systems. Now used by tens of companies help to manage their day-to-day work. It's a desktop GUI application.

My contribution to the project:

1. It's a 10+ years old system, I joined the company and helped Mr. Chong my senior add new features to it. What I did including:
    1.1. The graphical scheduling feature for Trucking.
    1.2. The logging system for TM.
    1.3. The integration of Haulage with Sea-Freight module.
2. After 1 year, Mr. Chong left the company, transferred the TM to me.
    2.1. I handled TM as well as its customers.
3. With Mr. Lam, we sold TM to another company, I lead the TM team went through UAT and Live stages.

- ## The GeoData Map

A brief introduction to the project:

It's a website, displaying back-end geography data. Its clients are mostly LTA and some private construction companies. Before / while those companies are working, we install sensors to their work-site to monitor twist, tilt, temperature and so on... of the construction, collecting data, sending the data back, calculating it, and presenting the results to GeoData Map.

My contribution to the project:

1. I handled the project half-way, where it's original developer resigned.
2. I added GoogleMap to the website so that the customers can view and navigate all the sensors on GoogleMap, it's much more attracting and convenient.
3. Reorganized the source codes, so that it's easier to adding work-site maps as well as sensors to the GeoData website, saved some of the manual work.
4. Created a managing page, to monitor and summarize the health status of all sensors.

- ## The Real-time Raw-data Calculator

A brief introduction to the project:

It's a desktop GUI application, detects and processes raw data comes from the sensors installed on work-sites in a timely manner, passes the data to the GeoData Map.

My contribution to the project:

1. The program was slow, and did not work well with the GeoData Map. What's more, when the

sensors detected suspicious data, we didn't have a well-working alarming system. I joined the company to solve those three problems.

2. I rewrote the Real-time Raw-data Calculator:

   2.1. For faster calculating and a more responsive UI, I used asynchronous functions to handle heavy calculating jobs, and return the control to UI thread immediately to response to user inputs.

   2.2. For the integration of the GeoData Map, I created a tree-structure, and we could maintain that tree-structure in order to maintain the sensors on the work-site, and we could also drag a child of the tree(which is a sensor, or a combination of sensor pairs) and drop it to a site-map, and those changes would update to the GeoData Map, thus to save quite a lot of manual work.

   2.3. Designed and developed the Alarming System. The alarming is critical to a real-time monitoring system. My program:

   a) is configurable so that

      - the alarming levels are separated from the business logic
      - the destination of the alarms are configurable
      - the time when the alarm messages are to be send is configurable

   b) can detect abnormal data, generate the alarming message

   c) view alarming history, including trendencies

- **Personal info**

Name: Zhou Kai

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Education background: Degree

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