The Washington Palm Pruning Robot

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(Ms.Imaguma)

Good morning, ladies and gentlemen. I am Yuki Imaguma, a fifth year student at Kagoshima National College of Technology. First of all, I'd like to present my team. This is Ms.Kamikawabata, a fourth year student. This is Ms.Ikesaka, a fourth year student. We'd like to talk to you today about the Washington Palm Pruning Robot which was originally designed by a student and how the company was founded.

I'll begin discussing its background. Do you know Washington Palms? Mainly you can see them in the southern part of Kyushuu:Kagoshima, Miyazaki and Okinawa. They grow to about 20 meters. About 100 palms are on our campus. They create the atmosphere of the southern country. But the problem is that their leaves with thorns are very large, and very dangerous when they fall to the ground, so we have to cut down dead leaves before they fall down. Every year our college asks the landscape gardner to cut them down with a crane truck. The cost is very high. When one of our students, whose major was control engineering, happened to see their work with a crane truck, he hit upon a good idea. His idea was making a robot desigined for climbing up palms, cutting dead leaves and climbing down to the ground. It may save time, labor and cost, he thought. One day he told his teacher his idea. He told him to take part in the First Venture Business Contest. Finally five students started researching and applied for it with the title of "Development of the Washington Palm Pruning Robot". Happily they won the highest award. Its sponsor suggested our college should found a venture business with this robot. Then our college improved their plan and actually made a robot and finally founded a venture business, Limited Company Hayato Techno.

The next speaker, Ms.Kamikawabata, will explain the collection of data of palms, the first and second Washington Palm Pruning Robot and the foundation of a company. Ms.Kamikawabata, please.

(Ms.Kamikawabata)

Thank you, Ms.Imaguma. I am Madoka Kamikawabata. First of all, they collected data of about 100 Washington palms in our campus and analyzed their length, size in circumference; one meter from the ground, in the middle, and on the top. They started designing the first robot on the basis of this data. It's very difficult to design it because all the palms are not the same. Some of them are strangely shaped, some parts of the trunk are greatly swollen, some curve out greatly, some are very thin and some are extremely twisted.

On July, 2004, the first robot was completed and its patent was applied for. The first robot solved the problem such as climbing up and down various shapes of trunks and cutting the dead leaves, but it still has problems to solve such as reduction of body weight and improvement of its performance(cutting dead leaves more quickly and cutting varously shaped dead leaves).

They struggled with the problems the first robot had and improved it and completed the second palm pruning robot on February 2004. This research proved to be very successful, so on May, 2005, the venture business, Limited Company Hayato Techno was founded. This company aims at preservation of southern country view and contribution to the community. It has unlimited possibilities. Do you know how many Washington palms are in the southern part of Kyushu. Look at table-3. Total numbers of palms are 33,500.

The next speaker, Ms.Ikesaka, will conclude our presentation. Ms.Ikesaka, please.

(Ms.Ikesaka)

Thank you, Ms.Kamikawabata. I am Yuria Ikesaka. Ladies and gentlemen, could you understand how the Washington Palm Pruning Robot was made and how the venture business was founded at Kagoshima National College of Technology? The very beginning of this project came from one student's idea. Don't you think it's wonderful? One student in the Control Engineering Department hit upon an idea. His teacher respected his idea and helped him to realize his dream of making the Washington Palm Pruning Robot. His team researched hard on the basis of their teacher's advice. They took part in the venture business contest and won the highest award. Finally, our college decided to research hard to make an actual robot and founded a company.

I was very excited to hear this story. I'm very happy to be a student of Kagoshima National College of Technology. I'm very proud of my college. Only one student's idea! But his idea is full of dreams. My college finally realized its dream and started a company. Our college is full of future engineers. I hope they will work hard to make their dreams come true. Today I wanted to share this wonderful event from my college with you. Lastly I would like you to watch the robot full of dreams actually prune Washingtone Palms. (The robot is climbing up the tree. It is trying to cut the dead leaves with the chain saw. It is operated by remote control. Its power is electricity.)

So that wraps up our presentation. On behalf of our team, I'd like to thank you very much again for inviting us to speak, and thank you for your attention.