Teaching Wi-Fi Networks Using WiTuners Software

The interactive user interface and comprehensive what-if analysis capability of WiTuners Software makes it easy and fun for students in the Wireless Networks course to learn and practice the knowledge about Wireless Networks

❖ The challenge

In 2014, Dr. Shi, a professor of Victoria University teaching Wireless Networks, had a problem.

Her Mobile & Wireless Networks students weren't getting enough hands-on experience. They weren't retaining the information.

They were finding WLAN design dry and theoretical.

And with only one professor and one lecturer for the course—how could Dr. Shi ensure that every student got **hands-on experience** troubleshooting and implementing solutions?

So Dr. Shi went looking for solutions. She needed something that would fit her course curriculum, which teaches students:

1. WLAN fundamentals.
2. How to install and configure WLAN and clients.
3. How to implement and design WLAN.
4. How to conduct WLAN troubleshooting and maintenance.

There were a lot of tools out there, but none of them meet all the requirements, with just one exception.

❖ The Solution

Fortunately, Dr. Shi found one, and the only one that provided the necessary features for student experimentation and analysis: WiTuners.
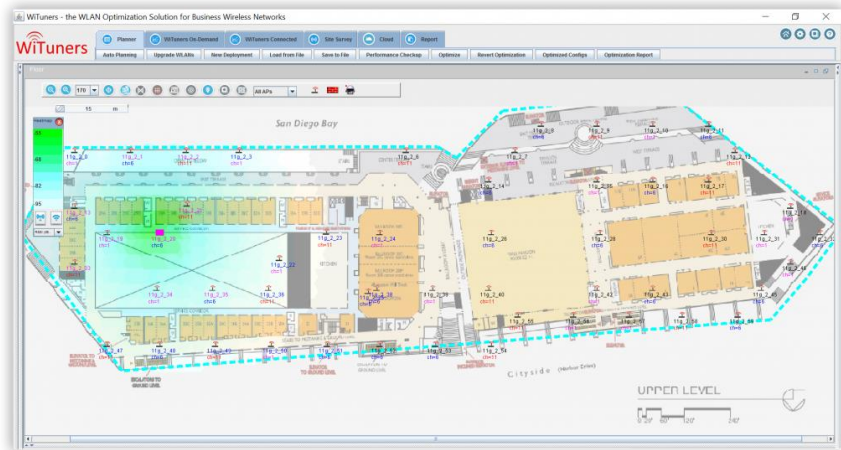
It has all the required features:

1. **Real-world trial and error** capability, so students can make changes to any properties of a wireless network and immediately see their effects. WiTuners provides this with its what-if analysis tool.
2. Capability for students to **check WLAN performance detail** at any location, at any time, and on any Wi-Fi device—achieved through WiTuners' virtual site survey.
3. **Easy troubleshooting and analysis** for students, which WiTuners provides through its MySQL database that retains statistics, data for deployment plans, site survey results, and WLAN configurations.

4. **Detailed reports** in the pre-planning, deployment, and auditing phases. These WiTuners features create a wealth of educational material.

5. **Easy to learn**, which WiTuners ensures with an intuitive UI and online demo videos and instructions that students can access from anywhere.

6. **Ease of use**, which WiTuners provides with WLAN performance heat maps, drag-and-drop AP placement, and other features.

And perhaps the best feature of all?

WiTuners is free for educational use.

That's the start of using WiTuners software in course NIT2223/ECB2241 "Wireless and Mobile Networking" at Victoria University in Melbourne, Australia. Since then, Hundreds of students have used WiTuners, which becomes a default teaching tool for the course every year.

❖ The Results

In 2016, over 40 Victoria University students used WiTuners. Sunil S, the instructor of Dr. Shi's class, raved about the experience:

> "Overall **the students are very happy with the software** and highly value the many features available for their study purposes.
>
> I take this opportunity to thank WiTuners for giving us free access to use this great software with many advanced features for the benefit of our student learning. I highly recommend this software for any educational institute for their learning and teaching purposes, which provides a **vast array of features for experimenting, analysis and reporting**."

In all, 93% of students were able to use WiTuners to meet their project goals.

The most popular feature was **auto planning**, which allows users to create a professional, multi-site, multi-floor 3-D WLAN plan in only a few minutes.

So was WiTuners a success for Dr. Shi's Mobile & Wireless Networks course? We think so!

If you teach Wireless Networks in colleges and requires free use of WiTuners software, please contact us at contact@wituners.com. If you would like to know more about WiTuners WLAN Optimization Suite, please visit the web site at http://www.wituners.com.