

A MOBILE VINEYARD SAMPLING SYSTEM FOR VITICULTURALISTS

Background

- Precision Viticulture demands more data in order to generate accurate maps of productivity at the vineyard scale.
- Traditional paper record-keeping methods are cumbersome and do not readily allow data fusion, interrogation, nor support transfer and communication between those who make measurements and those who interpret them.
- New computing technologies such as Personal Digital Assistants (PDAs), or simply handheld devices, offer numerous advantages over existing record keeping, including:
 - Wireless connection: PDAs are able to transfer data to other central or remote devices by infrared, bluetooth and Wi-Fi technology;
 - Small size: Light weight and pocket size they offer the user convenience to carry the data everywhere;
 - Expandable storage capacity: PDAs are able to store large amounts of data in compact flash cards and these cards are replaceable;
 - On-board database: allows real-time and in-situ interrogation of existing data to facilitate timely decision making;
 - Incorporating an integrated mapping capability: e.g. ArcPad, allows GPS guidance of field staff to localized areas of interest for further sampling/analysis.



Research objectives

- Develop a prototype database application for viticulturists to input data collected in the vineyard.
- Test the reliability of collecting vineyard data using a handheld device against paper record-keeping modalities.
- Evaluate the utility and applicability of offering historical data in-situ to viticulturists while in the vineyard.

Research methodology

- This research is adopting a software development system research method. This method is used specifically for developing project research in the Information Technology and Information System area. In this research, the researcher will develop a handheld prototype database software system to test the research objectives.
- A vineyard database will be developed for a handheld device to collect sample data. The viticulturalist will be equipped with a PDA device to collect data in the vineyard.



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