TU Clausthal

Abschlussvortrag Masterarbeit Harish Gundelli

„Vplant - ARecommendation System for Vertical Farming"

As per the United Nations population predictions, the world's population will reach 9.7 billion by 2050[1]. With increased urbanization, changing climate conditions, and soil contamination, there is a growing scarcity of arable land for agriculture. This makes it increasingly challenging to produce enough food to meet the needs of the growing population. Vertical farming becomes a sustainable solution by enabling indoor cultivation in controlled environments removing dependency on seasons, environment conditions making production throughout the year. However, the steep learning curve associated with the vertical farming creates a hurdles to the entry level farmers or novice farmers with no prior knowledge of farming. Vertical farming requires prior knowledge spanning from choosing crops to managing diseases for the crops.

This Thesis proposes "Vplant" a recommendation system developed to guide novice farmers by providing recommendation throughout the Vertical farming processes starting from seed till harvesting the crop. By using the Business Process Model and Notation (BPMN) workflows, Vplant consists of different set of recommendations based on stages of the crop these recommendations consists of nutrient levels in water, water cycle for the plants, temperature to be maintained in the grow environment and disease prevention, detection, eradication recommendations. Vplant reduces the challenging learning process of vertical farming for new farmers and helps in the overall aim of enhancing global food supply in a sustainable manner.

Betreuer der Arbeit:	Prof. Dr. Benjamin Leiding, Prof. Dr. Jörg P. Müller (Institut für Informatik)
Datum:	Mittwoch, 13. März 2024, 16:00 Uhr
Ort:	Online-Meeting über BBB
	Link: https://webconf.tu-clausthal.de/rooms/ben-yjv-0uq-l3z/join