

Web Application Dohdin: A case study in Regional Irrigation Office 7 Area

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Abstract

Design engineers often question unsurveyed projects about how thick the soil is, and whether the rock type or any geologic structure affects the construction. Agriculturalists are sometimes curious about the groundwater depth, water quantity, and whether drilling is worth operating. As a group of geologists working for the Royal Irrigation Department (RID) for more than 25 years, we gathered survey data to invent and develop the web application called Dohdin. To create the Dohdin, the database web application was first collected and uploaded into the ArcGIS online system. After that, the Dohdin was created and launched for usage. All users' received feedback can improve the web application. Finally, the improved version of Dohdin was released to the public, including RID engineers and agriculturalists, as a tool to provide information on rock, soil, and groundwater for engineers and others in planning work projects and foundation designs. The Project Consideration Branch can search for information on the project area before deciding. The Soil Engineering and Geotechnical Branch can use the information to set up a survey budget and plan the use of machinery with tools and the appropriate number of personnel. The Design Branch can use the information to design the drafts and predict the soil layer types and thickness before receiving the actual field data. The Dohdin can help determine the foundation geologic conditions of the interested area, although data from the survey were previously unknown. Moreover, we also inform agriculturalists and the public to realize the soil type and its properties for suitable plants in their areas. This application can be a guideline for quick and easy farming based on the preliminary groundwater depth and quality and quantity of water.

Keywords: web application, innovation, ArcGIS online, groundwater, agriculturalists