



**DEPARTMENT:**

Computer Science And Engineering

**FACULTY SPONSOR:**

Professor Warren Macevoy

**STUDENT(S):**

Jacob Cline  
Briana Molinari

**PROJECT TITLE:**

GVWUA Digital Water Request System



# GVWUA Digital Water Request System

Jacob Cline & Briana Molinari



# Team Introduction

# Definitions

GVWUA : Grand Valley Water Users Association

Water User: A person who uses irrigation water for crops or personal land

Lateral: A waterway that stems from the main distribution point

TurnOut: A smaller waterway that comes off a lateral and feeds water to a specific location

Ditch Rider: Someone who collects water requests from water users and communicates the information back to the GVWUA office and operations manager

Ride: A section of land that a specific ditch rider is responsible for

---



# The Problem

The Grand Valley Water Users Association (GVWUA) regulates one of Colorado's most vital resources: water.

They provide irrigation water to 23,500 acres and thousands of clients here in the Grand Valley.

Currently, when a client needs to make a request for more or less water they fill out a paper card. They must then travel to one of the drop box locations to make sure it is received and acknowledged.

Unfortunately, too often something will come up and the client is unable to make it to the dropbox or they lose their request card.

**GRAND VALLEY WATER USERS' ASSOCIATION**  
**WATER REQUEST** Serial No. \_\_\_\_\_

**GIVE TWO DAY'S NOTICE**

| METER READING | SECOND-FEET |    | DATE | LATERAL | TURN-OUT NO. |
|---------------|-------------|----|------|---------|--------------|
| Turn on       |             |    |      |         |              |
| Change        | From        | To |      |         |              |
| Turn off      |             |    |      |         |              |

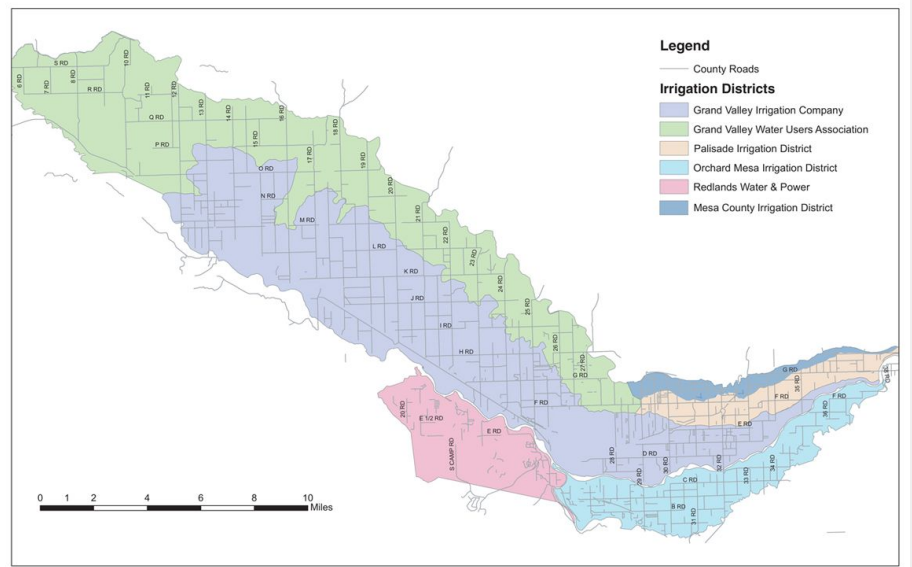
Remarks: \_\_\_\_\_

Date \_\_\_\_\_, 20\_\_\_\_ Name \_\_\_\_\_

GVWUA's current water request card



GVWUA balances water supply and demand for water users living in the green district highlighted on this map.





# Making The Leap

In order to help provide a faster and more secure method for GVWUA's clients to submit their water requests the company has decided to go digital.

By transitioning to an online system, the GVWUA will receive more accurate data with regard to their clients' needs.

Also, the water users will never have to worry about traveling to a drop box location or losing their request cards again.



# Requirements

- A client facing interface that is accessible to different kinds of devices
  - Apple/Android
  - Windows/MacOS
- An easy to fill out digital form that still resembles the current analog paper cards
- A database to organize and save the information from the water requests
- An interface that is accessible to the ditch riders and office staff of GVVUA that allows for the retrieval of the water request data
- System needs to reliably function in areas that have low internet or cell signals





# Design

- The system lives online
- Mobile device friendly
- Easy to use due to resemblance of current request cards
- Simple yet functional
- Submission review
- Peace of mind



# Testing

- Form validation
- Sample inputs using real data
- Mobile device vs desktop versions
- Outdoors and lighting

# Code & Demo



---

# Thanks for watching!

Special thanks to Mark Harris, General Manager at GVWUA,  
for the initial project proposal.