Assignment 3

SE329 - Time & Cost Planning

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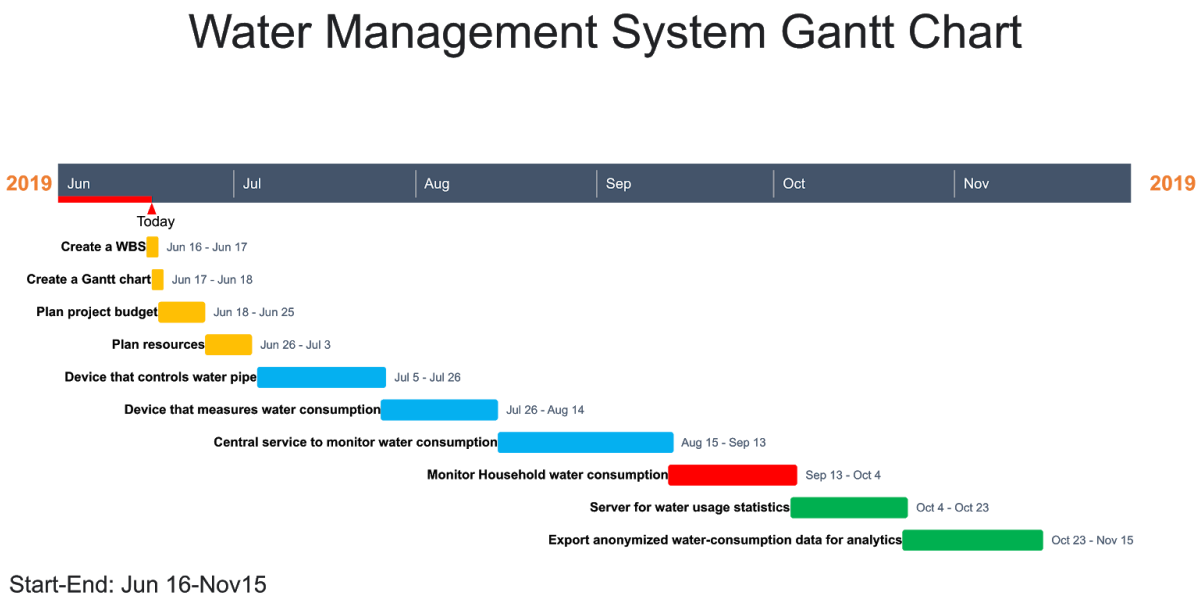
A. Project Activities

1.0 Water Management System
- 1.1 Design Document & Project Plan
  - 1.1.1 Create a Work Breakdown Structure (WBS)
  - 1.1.2 Create a Gantt Chart
  - 1.1.3 Plan Project Budget
    - 1.1.3.1 Scheduling
    - 1.1.3.2 Prioritizing
  - 1.1.4 Plan Resources
    - 1.1.4.1 Decide what resources to use for the project
- 1.2 Water Management System
  - 1.2.1 Device that controls the water pipe
    - 1.2.1.1 Open the pipe
    - 1.2.1.2 Close the pipe
    - 1.2.1.3 Reduce water for unpaid bills
  - 1.2.2 Device that measures water consumption
    - 1.2.2.1 Measure how much water is being used
    - 1.2.2.2 Detect when water is being used
  - 1.2.3 Central service to monitor water consumption
- 1.3 Mobile App
  - 1.3.1 Monitor household water consumption
    - 1.3.1.1 Show the data in a simple, yet effective UI
    - 1.3.1.2 Generate invoices for water consumption
    - 1.3.1.3 Alert resident of upcoming or unpaid bills
- 1.4 Water Data Module
  - 1.4.1 Server for water usage statistics
    - 1.4.1.1 Receive data from measuring devices
    - 1.4.1.2 Send data to city officials for visualization
  - 1.4.2 Export anonymized water-consumption data for analytics
    - 1.4.2.1 Replace ID, names, and addresses of customers by codes

B. Project Schedule



I worked with Aashutosh Mallik and Isaac Holtkamp on time estimation for the Water Management System. The potential start time for this project is June 10, and the potential end date for this is November 15.

Here is the link to the GitLab repository with more of our project information:

https://git.linux.iastate.edu/amallik/329

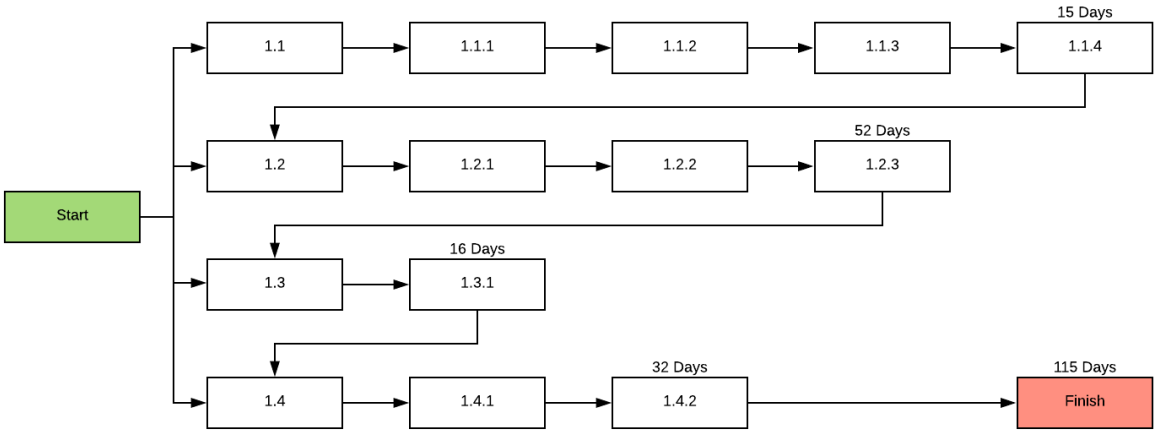
C. Project Budget

Cost Estimation:

	Resource	**Cost ($)**
	Offices and HR	$150,000
	Software Engineers	$500,000
	Computer Software	$300,000
	Water Monitoring Hardware	$250,000
Total:		$1,200,000

D. Project Compression

Network Diagram (Critical Path):



Since the customer has requested the final product 2 months earlier than the amount of time we have estimated, we will need to leave out some of the features in order to use less time. We will need to leave out some of the tasks that take a longer time to be implemented at a later time. We will do this from 1.2 and 1.4, since those are the 2 timelines that require the most amount of time. The tasks that we are holding-off on can be determined by what makes the most sense to leave out, which means it must not be of critical importance.