

## ABSTRACT

The purpose of this project is to design, test, and implement a real-time customer management API on Sunrise for Travel Resorts of America. The API is designed with the intention of expanding the API framework for internal purposes and future integrations. The project involves creating an authentication token-based system, API development, and unit testing.

## INTRODUCTION

Sunrise, based in Tennessee, offers a cloud-based campground management and complete reservation solution to fully automate campgrounds of all types. Sunrise provides real-time online reservations, remote campground monitoring and reporting, real-time inventory, customer management, and a customizable production rule system. With a message to create the most dependable product on the market, Sunrise wants to provide an API to allow authenticated systems to exchange and interact with its inventory.

The primary customer of Sunrise requesting the API was Travel Resorts of America (TRA). TRA is a customer membership-based organization with about 8 resorts. Currently, there is a nightly batch CSV job that maps the customer data from TRA to Sunrise's data models. The goal of this API is to provide a real-time connection between Sunrise and TRA's proprietary software.

## PROJECT IMPLEMENTATION

### AUTHENTICATION SYSTEM

The authentication system is based on the OAuth scheme model using JWT tokens. The authentication flow is as follows: customer generates a key and secret on Sunrise; the secret is used to sign a message containing the key; the system authenticates the request and sends back an access token; the client attaches the token to every subsequent HTTP request up to 1 hour; the server verifies the token and processes the request to return the requested data. (Fig 1).

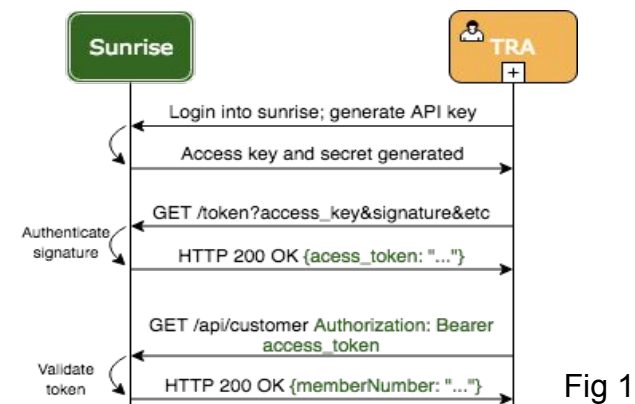


Fig 1

### API DEVELOPMENT

Once a request was authenticated, API endpoints were created to provide an API service layer that utilizes existing data models and returns necessary data per the request. The endpoints involved interacting with the customer data model for TRA. There are at least 30 different HTTP endpoints that were developed and are detailed in the API documentation under 'References' [1].

### TESTING

Tests were created to provide quality of code for the authentication system and API endpoints.

## CONCLUSION

With the newly developed and tested API, any customer or partner who is authorized will have access to a library of endpoints to interact with Sunrise. The API endpoints are continually being expanded upon to allow for more use cases such as reservation inventory, campground site inventory, and more. Travel Resorts of America now has the ability to manage their customers in real-time with their software.

## SUMMARY

Through my Senior Project, I was able to design and create an API framework for Sunrise that will have a major impact in creating dependable relationships with existing and potential customers. This will also serve a purpose for internal development. Travel Resorts of America has already been utilizing the API since its been completed.

## REFERENCES

- [1] API Documentation
  - <https://smokies.sunrisepanorama.com/panorama/api>
- [2] Sunrise (Campground Automation Systems)
  - <http://www.campgroundautomation.com/>
- [3] Travel Resorts of America
  - <http://www.travelresorts.com/>