



Sunrise Customer Management API

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WWU Computer Science Senior Project
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Customer



- Sunrise offers a cloud-based campground management and complete reservation solution to fully automate campgrounds of all types
- Fastest growing provider of campground management software

Motivation



- Travel Resorts of America (TRA) is a membership-based organization with 8 campground resorts
- TRA has their own management software
- TRA uses Sunrise primarily for:
 - Online reservations
 - Rates/Site Availability are determined by memberships
 - Reporting Tools

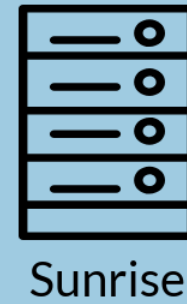
Nightly CSV Job



2
Input customer info into CSV



3
TRA Data Loader Job parses CSV file at night



Database



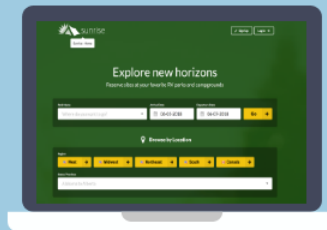
1
Sign up for TRA



Customer

2
Customer waits one day to book reservation

One day later... 🤔



Real-time API



2
API request with customer info

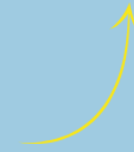


3
Sunrise responds in real-time



Sunrise

Database



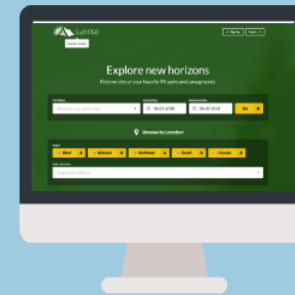
1
Sign up for TRA



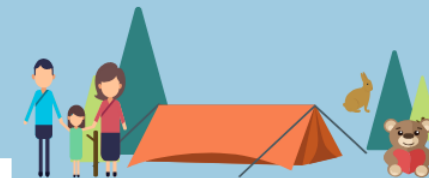
Customer



2
Immediate reservation available to the customer



3
Reservation made with less delay time!



Project Deliverables

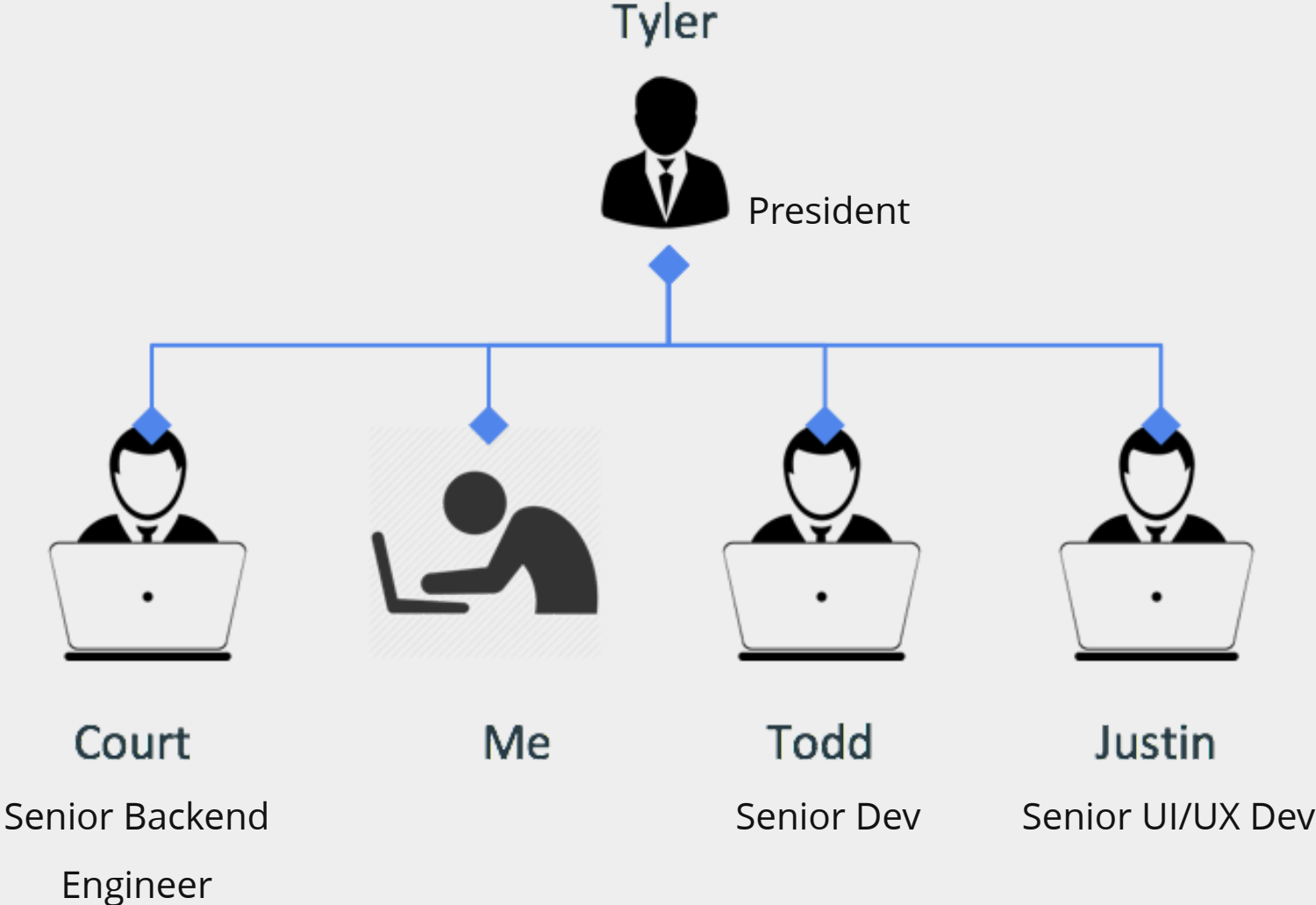
- Create a real-time API solution with
 - An authentication system
 - Customer API endpoints
 - Testing
- Customer endpoints would allow TRA to create, retrieve, update, and delete customers
- Design the API with the intention of:
 - Internal use cases
 - Future integrations

Tools

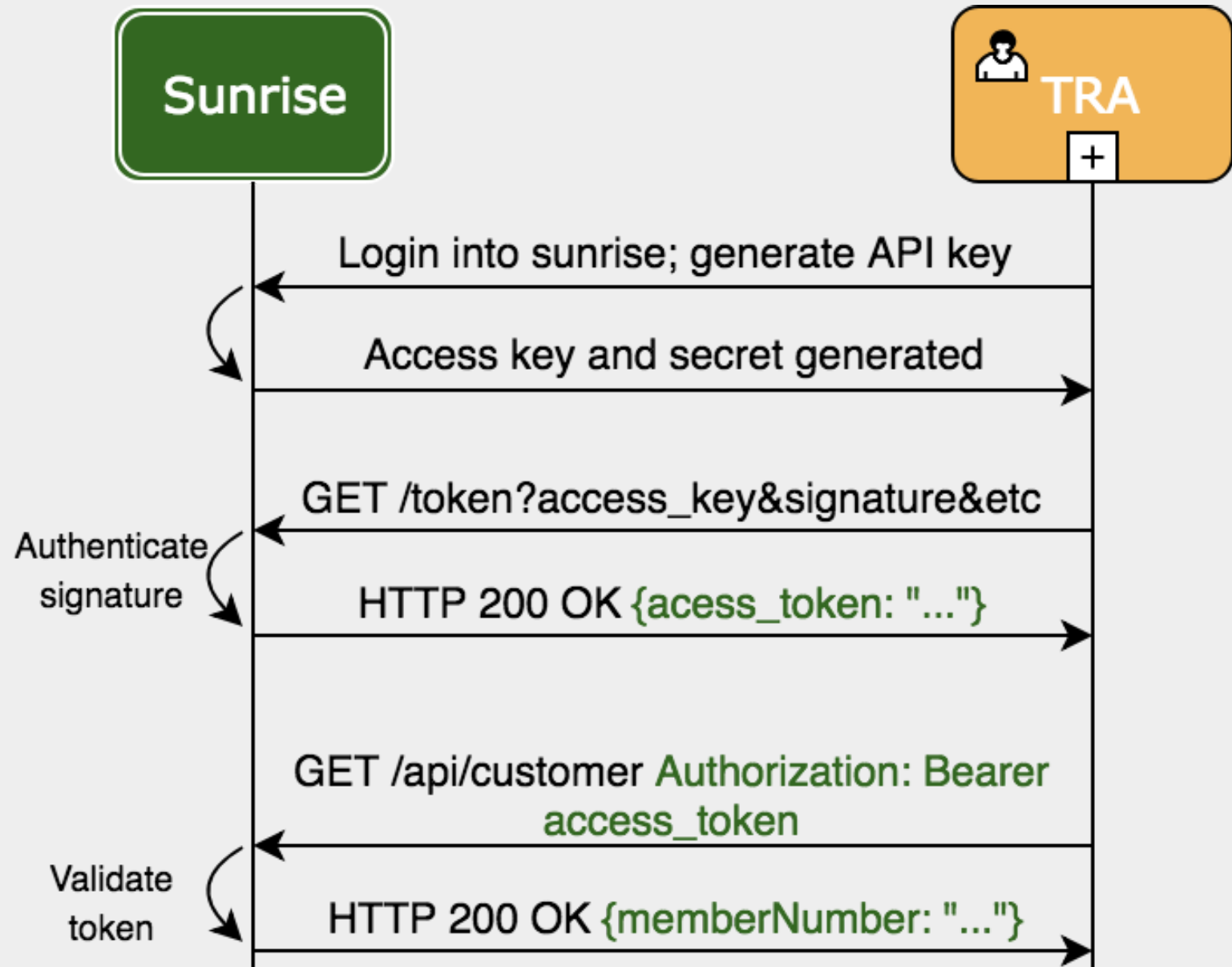
- Java 7
- Groovy and Grails (Web Framework built on JVM)
- SQL
- Token-based authentication
- Postman Test Scripts
- RAML



The Players



Authentication Layer



Key/Secret Generation

- Access Key and Secret generated through Sunrise UI
 - Secret only shown at creation

The screenshot displays the 'API - Access Keys' management interface in the Sunrise UI. The page header includes the Sunrise logo, a 'Dev' badge, and the current site 'ACME Campground'. The navigation menu shows 'Web' as the active section. The main content area features a sidebar with 'API' selected, a title 'API - Access Keys (3)', and a '+ New Access Key' button. An information box provides a link to the API documentation. Below is a table listing the existing keys.

Key	Name	Created	Expires	Active	
QAFFM8ZJAQATBO7D6JMP	Test Key	3 months ago	7 days ago	<input checked="" type="checkbox"/>	Edit Delete
LG2RD9AFI02248IHRZZJ	Testing	14 days ago	Never	<input type="checkbox"/>	Edit Delete
39DZ9JNS4Z1IUJB2CO9Z	Code Walkthrough	14 days ago	Never	<input checked="" type="checkbox"/>	Edit Delete

Client Signature

- Create encoded message

```
GEThttp://localhost:9091/panorama/token?grant_type=client_signature&access_key={KEY}&timestamp={TIMESTAMP}
```

- Sign the message using HMAC-SHA1 with secret as the key
 - hex encode resulting byte array
- Append HMAC signature as query parameter to the `GET /token` request
- Use resulting token in the request header or URL encode as query parameter

API endpoints

/customer

/customer	
Entity representing a customer	
/customer	GET POST
/customer/{id}	GET POST DELETE
/customer/{id}/merge	POST
/customer/{id}/membership	GET
/customer/{id}/membership/{membershipName}	PUT POST DELETE
/customer/{id}/tag	GET
/customer/{id}/tag/{tagName}	PUT DELETE
/customer/{id}/property	GET
/customer/{id}/property/{alias}	PUT DELETE
/customer/{id}/property/{alias}/tag	GET
/customer/{id}/property/{alias}/tag/{tagName}	PUT DELETE

Demo

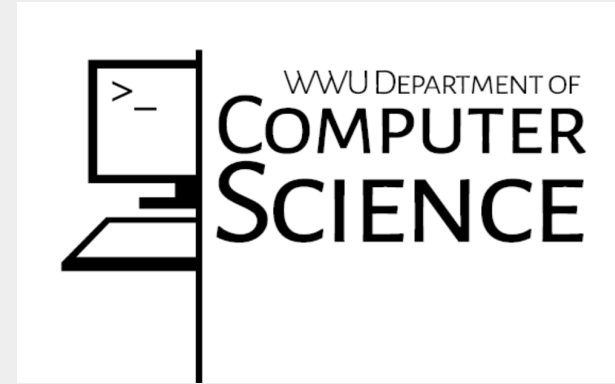
Conclusion

Challenges

- TRA developers are based in Pakistan
 - Meetings took place in the morning and evenings for them
 - Developing schedule conflicts
- Software stack running on older version of Java/Groovy/Grails
 - OAuth plugins were not supported
 - Spock testing was not fully supported
- It was my first time creating tests for a project at this scale

API Future Development

- API framework to be expanded for internal development
 - Use the API to help upgrade the software stack
- Future integration with Online Travel Alliance
 - Middleware converting JSON <--> XML
 - API for inventory management
 - Rates
 - Availability
- Integrate Postman test scripts with Travis CI
- Implement scope functionality in the access tokens



Thank You

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