

Final Year Project 2022

A web application using open source technology



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Project Supervisor: Anita Kealy

Currently training as a Software Engineer with Red Hat

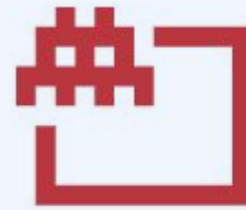




Agenda

- Introduction
- Need For the Project
- Application Demo
- Methodology
- Design
- Technologies
- Project Management
- Reflection
- Future Development
- Q&A

Introduction



FIELD SERVICE ENGINEERING SOLUTIONS
INDUSTRY LEADERS

To enable an enterprise streamline its services for employees and customers.

Project Focus:

- Create Single Custom Web Application
- Improve User Experience
- Use Open Source Software
- Improve Security
- Improve Transparency

Need for the Project

Identified a gap in the market for a software solution to an engineering enterprise.

- Data Loss - Missing documentation
- Task Switching
 - Complicated processes requiring multiple applications
 - Multiple user logins required
 - Time Delays / Workload
- Vendor lock-in - Company using licensed software

Application Demo

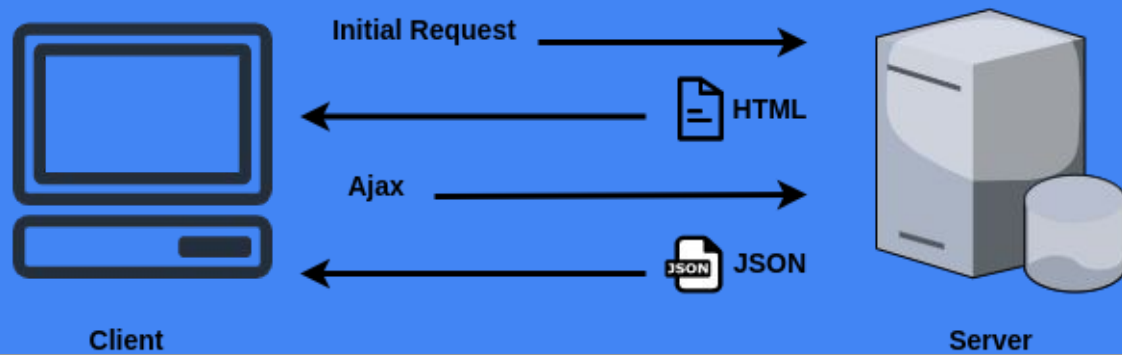
- Application Features
 - Document CRUD operations
 - Calendar API
 - Contact Us
- App Integration
 - Keycloak Console *Go RESTful API*



Methodology

- Develop proof of concept
- Agile and Scrum
 - Sprint Planning
 - Breaking higher level tasks to into smaller manageable pieces
 - Build, Iterate and Learn
 - Sprint Reviews

Design



- Single Page Application
- Fast Development
- Simple & Responsive UI
- RESTful Architectural Style
- SQL Database

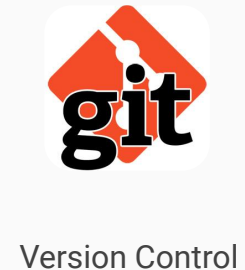
Technologies



Project Management



Process



Jira Issues

Projects / Open-FISES

Issues

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LIST VIEW ▮

DETAIL VIEW ▮

⋮

Search Issues



Project ▾

Type ▾

Status ▾

Assignee ▾

More +

Save filter

BASIC JQL

Type	Key	Summary	Assignee	Reporter	P	Status
	HDIP-47	Install and setup a running Keycloak Instance	Ian Hutchinson	Ian Hutchinson		DONE ▾
	HDIP-46	Create Conceptual data model	Ian Hutchinson	Ian Hutchinson		DONE ▾
	HDIP-45	Grafana Loki	Ian Hutchinson	Ian Hutchinson		DONE ▾
	HDIP-44	Setup Logs	Ian Hutchinson	Ian Hutchinson		DONE ▾
	HDIP-43	Incorporate router into App	Ian Hutchinson	Ian Hutchinson		DONE ▾
	HDIP-42	Create Enquiries Page	Ian Hutchinson	Ian Hutchinson		DONE ▾
	HDIP-41	Review Grafana Loki tool for logging.	Ian Hutchinson	Ian Hutchinson		DONE ▾
	HDIP-40	Identify main Data Model Components	Ian Hutchinson	Ian Hutchinson		DONE ▾
	HDIP-39	Investigate file storage solution	Ian Hutchinson	Ian Hutchinson		DONE ▾
	HDIP-38	Audit Events	Ian Hutchinson	Ian Hutchinson		TO DO ▾
	HDIP-35	Demo	Ian Hutchinson	Ian Hutchinson		TO DO ▾
	HDIP-34	Slides	Ian Hutchinson	Ian Hutchinson		IN PROGRESS ▾
	HDIP-33	Secure App with Keycloak	Ian Hutchinson	Ian Hutchinson		DONE ▾
	HDIP-31	Interim Report	Ian Hutchinson	Ian Hutchinson		DONE ▾

Challenges

Time

Skills Gap

Community Support

What I have Learned

Time Management

Project Planning

Development using Go
Programming Language

Deeper understanding of
Javascript & Svelte

Improve Troubleshooting
& Debugging

Future Development

Improve Booking Service

Provide support to create and save a booking to the database

Add service account to authenticate with the Google Calendar API. This is an important aspect from both an engineering and customer experience perspective

Alerting & Monitoring

Integrate Grafana Loki stack on top of standardised logging middleware. Push logs to

Implement Remaining Models

The project scope did not include '*Job*' and '*Equipment*'. Implementation of these models would improve the service overall. They are tightly coupled with the booking service.

Deployment

Containerise application and services and deploy them with Docker, Kubernetes and Red Hat Openshift Platform

Q&



Thank you for your attention