

# ALPHA OPERATIONS

Infinite Excellence...



- **Proposal Delivered On:**

- {18th Nov, 2021}

- **Submitted By:**

- { Group 16 - Alpha Operations  
Long Beach, CA 90815 }



**Project Proposal:**  
{Web Application Development}

**Client:**  
{ South Coast AQMD,  
St #115,  
Long Beach, CA 90810 }

# PROPOSAL FOR THE WEB APPLICATION DEVELOPMENT, MAINTENANCE & SUPPORT OF SOFTWARE SYSTEMS

- Prepared For:

South Coast Air Quality Management

District 21865 E. Copley Drive

Diamond Bar, CA 91765-4178

Attention: Procurement Unit

**In Response To: RFP No. P2021G16**

- Prepared By:

Alpha Operations Long Beach CA 90815





Guaranteed Browser  
Support



# Proposal for Web Application Development.

Reduce and Eliminate Expenses

Click to add text

Decide on a Location

Set Goals and Create a Plan



# Cover Letter

Dear Rezvan Ramezani,

It was great chatting with you last week about partnering with Alpha Operations for your inbound web application development needs. Based on our experience, We are highly confident that we can meet your requirements.

As the following pages of our proposal will show, we utilize a wide range of skills to accomplish this boost in qualified web development strategies. If you have any questions or concerns about this proposal, please don't hesitate to leave a comment or email us at [Group16alphaoperations.com](mailto:Group16alphaoperations.com)

Sincerely,

Group 16  
Alpha Operations

*Alpha Operations – Infinite Excellence..*



2021 Beverly Avenue, Long Beach, California 90815

South Coast Air Quality Management District

Nov 18, 2021

21865 Copley Drive

Diamond Bar, CA 91765

Attention: Procurement Unit

Subject: Response to RFP No. P2021-16

Dear Sir/Madam:

It is my pleasure to send this proposal for the creation, maintenance, and support of software systems.

Alpha Operations has a proven track record of delivering excellent results for government agencies in the California region on projects that are quite similar to the one outlined in your RFP. This includes 30 years of assistance on 5M programs for the AQMD. We remain steadfastly committed to providing the AQMD with the best possible care and assistance.

Our pricing approach takes into account the budget constraints that our government clients face, ensuring that you get the BEST VALUE for your money. We distinguish ourselves from other software development firms by focusing solely on government customers, resulting in increased efficiency in our business processes and avoiding the diversion of our energy and resources to the private sector. This laser-like focus degrades results.

We pledge to provide you with fairly priced software development staff with excellent technological skills and a positive personality. That has always been our reputation, and it remains so today. We aim to provide value to our customers. We assume our plan, both technically and financially, illustrates this.



**\*Information on this page is proprietary to Alpha Operations\***



The following considerations are important aspects of our proposal:

We will provide you with the same engineering staff that currently serves you, as well as the same management team that has overseen your account since 1990.

We are constantly working to reduce our overhead costs so that we can give clients below market rates while paying our employees above market rates.

A superior Sample Task response is provided by our AQMD experienced team.

Alpha Operations is an independent company that offers Most Favored Customer pricing, which qualifies you for an additional 25 points as part of your appraisal process.

We hope to participate in future post-proposal source selection processes and, in the end, provide quality system production, maintenance, and support to the AQMD.

Yours Sincerely,

Aishwarya Bhavsar

President

Alpha Operations

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## **Volume II Cost Proposal**

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Alpha Operations Pricing Reflects our Emphasis on Government Clients

A.2 Labor Category Billing Rates

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B. I Task Order Pricing







# Alpha Operations Team

1. Ms. Udit Jain
2. Mr. Fouzan Khan
3. Mr. Varun Bhandari
4. Ms. Aparna Popade
5. Mr. Ankit Ramrakhyani
6. Ms. Aishwarya Bhavsar



# OUR PROJECT MANAGER

*Ms. Udit Jain*

**"Everyday May Not Be Good,  
But There Is Something Good  
In Everyday"**

## **Hobbies:**

- ☐ Travelling
- ☐ Dancing
- ☐ Cooking







Our Lead  
Business Analyst

**Mr. Fouzan Khan**

**"Learn The Rules Like A Pro & Break  
Them Like An Artist"**

**Hobbies:**

- ☐ Soccer
- ☐ Hiking







Our Lead QA  
Specialist

# Mr. Varun Bhandari

**"Respect Your Work And Be Grateful"**

**Hobbies:**

- ☐ Volleyball
- ☐ Cricket
- ☐ Reading
- ☐ Movies







Our Lead Full  
Stack Developer

# Ms. Aparna Popade

**"Follow Your Own Star"**

**Hobbies:**

☐ Travelling

☐ Reading







Our Lead Database  
Developer

**Mr. Ankit Ramrakhyani**

**"Don't Be Afraid To Give Up The Good  
To Go For The Great."**

**Hobbies:**

- ☐ Badminton
- ☐ Dance
- ☐ Cooking







# Our Lead Systems Architect

**Ms. Aishwarya Bhavsar**

**"Treat Me Like A Queen, I'll Treat You As A King,  
Treat Me Like A Game, I'll Show You How It's Played..."**

## **Hobbies:**

- ☐ **Fitness & Dancing.**
- ☐ **Cooking & Confectionery.**
- ☐ **Reading & Travelling.**



## **Uditi Jain**

### **Project Manager, 9+ Years Experience**

#### **MANAGEMENT SKILLS**

- Program/Project Management
- Business Process Improvement
- Change Management
- Requirements Management
- Project Budgeting and Cost Controls
- Project Planning and Scheduling
- Resource and Vendor Management
- Database Administrator / Data Migration
- Requirements through to integration
- SharePoint Server 2010 Administration
- Communication and Reporting
- Quality Assurance
- Risk Management
- PMO/PCO Experience
- Enterprise Implementation
- Product Development

#### **TECHNICAL SKILLS**

Microsoft Office Tools: Word, Excel, PowerPoint, OneNote, and Visio

Collaboration & Content/Knowledge Management Tools: SharePoint, Confluence, Virtual Meeting Room, Bridgit, Skype, Lync, Jive, MindTouch, WebEx Connect

Project Management Tools: Clarity, Workfront, Microsoft Project, MS-EPM, SharePoint, Clarity, HP Service Mgr., Crystal Reports, Seagate Crystal Reports 8.0.01, FRx 6.0.81, Cognos Impromptu 6.0 and Mgmt. Reporter

Methodologies: SUITE, SEM, Agile, Waterfall, and hybrid methodologies, Capability Maturity Model Integration (CMMI), Process and Product Quality Assurance (PPQA), System Development Lifecycle (SDLC)

Testing and Quality Management: HP-ALM, Test plan development, HPQC, Problem Steps Recorder, test case development, manual and automated test execution, Jama, Jira, Jenkins, IBM Jazz, ChangePoint, TestDirector, Caliber, Remedy, Crystal Reports, Workbench & HP Service Mgr.



Web Technologies: NET Framework, Web Services, ESB, HTML Web Hosting, MS Azure, Maven, and Sitecore

Database Technologies: SQL, Data Warehousing, Oracle, Microsoft SQL Server, IBM Jazz, RDBMS, ODBC, AutoFTP

Development Tools: Microsoft Visual Studio, Eclipse, Rational Software Architect, CVS, Subversion, Microsoft Visual Source Safe, Microsoft Team Foundation Server

COTS: QRadar, Blue Coat, Sitecore, FRx, SAP, iVOS, Fiserv, Rackley, SilverPlume and Cambridge

## PROFESSIONAL EXPERIENCE

XYZ

### Project Manager

- Defining process improvement and working with the Portfolio and Program Lifecycle Management (PPLM) and PricewaterhouseCoopers (PWC) on mapping a phased organizational change management plan
- Working with the executive to develop an updated Project Management Methodology (PMM) to meet governance requirements established by the Project Management Center of Excellence (PMCOE)
- Developing a quality assurance checklist to identify key project deliverables and assist project coaches to audit and prepare for gate approvals
- Creating and implementing a project management methodology training curriculum including various project management tools - Workfront, Jira, Jama, Confluence, MS Office (For example SharePoint, MS Project, OneNote)
- Developing and delivering training to a wide variety of audiences with an array of mediums (in class, video and video conference) utilizing Learning Horizons
- Training project managers to lead projects, complete deliverables and obtain stage-gate approvals from the Investment Advisory Council (IAC) and IT Investment Committee (ITIC)

QPR

### Senior Business Analyst

- Creating Agile, Waterfall and Hybrid training, mentoring project managers and coaching teams within the EPM
- Utilizing change management strategies to share project benefits, increase awareness and buy-in prior to launch:

- Streamlining a Waterfall project management methodology into an innovative solution with three quality gates providing measurable value and an exceptional customer experience
- Developing and implementing an Agile process for software delivery, while coaching, training and guiding the project managers
- Introducing, leading and coaching Agile teams on Scrum, Kanban and Lean
- Leading and coaching Scrum teams: product roadmap, building the product backlog, sprint planning, managing sprints, sprint backlog, sprint review, sprint retrospective delivering product increment
- Creating a hybrid Waterfall/Agile Houston methodology
- Implementing a structured test management approach to eliminate risks by proactively finding issues or defects and working with scrum teams to manage the backlog, update progress (Jira, Jama) and deliver work product
- Empowering project managers to work effectively with the business, development teams, Enterprise Portfolio Management team and the review boards
- Coordinating with the domain management team that reviews and assigns projects determined through global initiatives
- Conduct Project Management Quality Gates (e.g. Initiation, Planning Ready-Release and Closure) and provide coaching on PM methodology and tools
- Provide approval and prepare projects to present to the Enterprise Portfolio Management Board (EPMB) and Operations Committee for completion of quality gates (e.g. Initiation, Planning, Closure and Change Requests)
- Developing, training and presenting project management forums/workshops to enhance/ team skill sets
- Administer project log activities including risks, issues, change controls, etc.

ABC

Business Analyst

- Managing a Program Level Gate Audit of the Digital Customer Experience projects to ensure projects were in compliance and efficiently managed
- Developed a response plan from PWC s gate audit findings and obtained buy-in from management and executive
- Managing improvements: scope definition, Agile change control, governance & reporting, integrate consultants, embedded Quality Assurance (QA), manage risks, engage stakeholders and project value realization
- Providing leadership, facilitating communication and collaboration through the implementation of weekly portfolio/project status reports, change management, risk and issue escalation to leadership, technical support, contractors, and third-party vendors

- Achieved marked improvement on the next PWC quality audit and was recognized by executives
- Lead projects in support of the Customer Value Initiative Program to increase the digital customer experience and portfolio management
- Orchestrate a Sitecore COTS implementation team of 25 professional staff. Administer Consumer Energy's new web content presence through a full project lifecycle
- Utilized Scrum for the creation and adoption of an Agile framework for software development
- Develop and manage Request for Quotation, Request for Proposals, scoring of proposals, coordination of vendor demonstration, the weighting of scoring and reference checks and present recommendation to the Executive Leadership for a cloud hosting solution alternative
- Lead the automation of the outage credit application program to provide enhanced usability
- Implemented a new process aligning subject matter experts and developers to combine requirements and the functional design to increase team knowledge and speed of delivery
- Manage full content packet capture project and provide internet border security traceability through SDLC
- Facilitate COTS (QRadar and Blue Coat) vendor evaluations, compile demonstration results, negotiate sale quote (vendor & value-added), and manage trial period testing and Implementation
- Deliver weekly project status reports to leadership, technicians, contractors and vendors
- Lead the bundling of tickets/projects into bundles of \$100k and above. Coordinate schedules to ensure execution at the same time to provide allocation & capitalization
- Use Clarity, HP Service Manager and SAP to coordinate functions and services
- Deliver weekly project status reports to leadership, technicians and contractors

## EDUCATION

Btech, Computer Science from UPTU, India

# Fouzan Khan

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(+1)5625358722

<https://thenightthinkerweb.wordpress.com/>

[linkedin.com/in/fouzan-khan-007a9a147/](https://www.linkedin.com/in/fouzan-khan-007a9a147/)

## Business Analyst

## Education

**Cal State University Long Beach, CA** - *Masters in Computer Science (Fall 2021 - Present)*

*Coursework : Advance Programming Languages, Advance Software Engineering, Topics of Distributed Computing*

**Osmania University, IND** - *Bachelor of Engineering in Info. Tech (Fall 2016 - Fall 2020)*

*C.G.P.A : 7.86*

## Experience

**Northline, IND - Junior Business Analyst (2020)**

Working in a RealEstate based Startup. Increased the revenue by 20% by analysis of data surrounding customer behaviours and vendor relationships.

**SmartBridge, IND - Analyst Intern (2019)**

Performed data mining and modelling collected, cleansed and also modelled structured and unstructured data for business requirements.

**Microsoft Student Society,MJCET, IND - Project Head (2018 - 2019)**

Spearheaded a team of students from various branches in the student body. Held Coding workshops for non-cs majors and assisted in creating top 10 projects in Hackathons.

## Projects

**JOBBIT (2020)** - *JavaScript, ReactJS, HTML5, CSS*

Created a web application for Managing Job Applications. MongoDB based database and complete full stack developed with javascript.

**MUSIC GENRE RECOGNITION (2020)** - *ML, DL*

Performed comparative study on Audio Recognition, based on MFCC and Tempo features to provide an accuracy of 80% with Resnet50 compared to a 51% of Machine learning models.

**FACE RECOGNITION (2018)** - *ML, DL, COMPUTER VISION*

Developed a face recognition project with accuracy upto 60% using Haarcascades and OpenCV. Further developed into an attendance system.

**TWEET SENTIMENT ANALYSIS (2018)** - *API*

Created an API for data mining using Tweepy and TextBlob was created for research purposes in under 48 hours.

**MED-iBOT (2017)** - *API*

Developed an assistant for medical diagnosis integrated in a User application *Sanjeevini* owned by the company *myKraft*.

## Skills

**TECH STACK** : Python, C++, HTML, CSS, Javascript, ReactJS, MongoDB, Wordpress, Git

**SOFT SKILLS** : Leadership, Ownership, Presentation, Public Speaking and Communication.

**HOBBIES/OTHERS** : Story Writing, Hikes, Passionate About getting software applications in the field of healthcare and senior citizen welfare.

## SUMMARY

3+ years experienced QA Engineer highly skilled in testing procedures for new & existing products, investigating product quality, and making improvements to bolster overall quality & performance. Adept at planning test activities, creating test plans & cases, and tracking the QA metrics. Proficient in designing, implementing, testing & debugging software and well versed in writing efficient code & troubleshooting coding errors.

## PROFESSIONAL EXPERIENCE

### QA Engineer

Jul '18 - Jun '21

#### Tech Solutions LLP

SF, CA

*A global IT, consulting & outsourcing company with 170,000+ workforce serving clients in 175+ cities across 6 continents*

#### Automation Scripting

- Designed, developed, and executed **automation scripts** by deploying open source tools such as **Selenium**
- Identified the QA process bottleneck and suggested actions for improvement; improved overall **user experience by 27%**

#### Test Case Designing

- Planned & coordinated **test activities** and created detailed, comprehensive & well-structured **test plans & test cases**
- Assessed **new testing tools** & test strategies and tracked QA metrics like **defect densities** & open **defect counts**
- Reviewed **requirements**, specifications & technical design documents to provide timely & meaningful **feedback**
  - Tested, analyzed & identified **5+ major bugs** and saved the **company \$70K**

#### Product Testing & Client Satisfaction

- Developed & applied testing processes for new & existing **20+ products** to meet client needs & requirement
- Investigated **product quality** in order to make improvements; bolstered customer satisfaction from **80% to 95%**

#### Software Testing

- Collaborated with the 25+ Software Developers and 5+ Product Managers to identify **system requirements**
- Investigated the causes of **3 non-conforming software** and trained the users to implement **solutions**

## KEY SKILLS

- Automation Testing
- Manual Testing • UAT Testing
- Requirement Gathering
- Software Testing • Automation
- Product Testing • Coding
- Continuous Integration
- Regression Testing
- Test Execution
- Client Servicing
- Project Handling

## TECHNICAL SKILLS

#### QA & Automation Tool:

- Selenium
- WebDriver
- IDE

#### Continuous Integration:

- Jenkins
- GitHub

#### Database Schema:

- MySQL

#### Languages:

- Core Java
- SQL
- HTML,
- XML

- C++
- Python

**Frameworks/Systems:**

- AngularJS
- Git

## EDUCATION

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### California State University Long Beach

Aug '21 - Present

#### MS in Computer Science

Indore, India

*California State University, Long Beach (CSULB, Long Beach State, Cal State Long Beach, LBSU, or Beach) is a public university in Long Beach, California. The 322-acre campus is the second largest of the 23-school California State University system (CSU) and one of the largest universities in the state of California by enrollment, its student body numbering 39,359 for the fall 2020 semester. With 5,440 graduate students as of fall 2020, the university enrolls one of the largest graduate student populations across the CSU system and in the state of California.*

- **GPA:**

### Sri Aurobindo Institute of Technology

May '14 - Jun '18

#### B.E in Computer Science

Indore, India

*Sri Aurobindo Institute of Technology is a premier Engineering Institute in Central India. Located at its sprawling 54-acre campus in Indore, SAIT has been consistently ranked amongst the best engineering institutes of the state Amongst the many firsts to its credit, SAIT was the first Private Engineering College in Central India to offer an in-house Finishing School. It was ranked #2 among Emerging Engineering Colleges of India in Times Engineering Survey 2014 conducted by The Times of India and Best Private Engineering College of MP in 2014 by OnePlanet Research-An Indo-Italian research foundation.*

- **GPA: 3.5 / 4.0**

# Aparna Popade

Long Beach, CA-90815 | (562)-384-6157 | [popadep@gmail.com](mailto:popadep@gmail.com) | [Linked](#) | [Github](#)

## EDUCATION

### California State University at Long Beach

August 2021 - May 2023

M.S., Computer Science

- *Relevant Courses:* Topics of Distributed Programming, Analysis of Algorithms, Advanced Software Engineering

### Pune Institute of Computer Technology, India

August 2012 - May 2016

B.E., Computer Engineering

8.3/10

- *Relevant Courses:* Data Structures, DBMS, Operating Systems, Data Mining, Cloud Computing, Business Analytics & Intelligence

## TECHNICAL SKILLS

**Frameworks/Tools:** Spring, Hibernate, JDBC, Django, Nodejs, Ansible, Jenkins, Git, Docker, Kubernetes, Flask

**Programming:** Python, R, C, C++, MATLAB, JAVA, JAVASCRIPT, HTML, CSS,

**Databases:** MySQL, Oracle, MongoDB

**Operating Systems:** Windows, Linux, Ubuntu

**Web Development Technologies:** REST, SOAP, XML, JSON, RESTful APIs, HTTP, JSP, Servlets

**Tools:** Eclipse, Visual Studio, Jupyter Notebook

## WORK EXPERIENCE

### Accenture Pvt. Ltd., Pune, India – Senior Analyst

May 2020 – August 2021

- Interpreted and analyzed large data sets consisting of more than 100,000 rows by writing complex SQL queries and scripts
- Extensively Involved in the software development life cycle – analysis, design, development, testing and CI/CD
- Resolved critical issues in the codes in production and made enhancements to rectify them within 24 hours SLA requirements
- Developed the scripts using ansible to deactivate the disabled users in the active directory

### IBM India Pvt. Ltd., Pune, India – Application Developer

September 2016 – April 2020

- Participated in daily meetings with stakeholders, development team to discuss requirements, test plan review, Sprint planning session, walkthroughs and QA sign off
- Performed troubleshooting of the issues in the production environment to resolve them on priority and client communications to gather requirements and design solutions for the problems
- Extensively developed and handled REST (Representational State Transfer) API's for communicating with the backend services

## INTERNSHIP

### Tavisca Solutions Pvt. Ltd., Pune, India – Intern

November 2015 – May 2016

#### Enhancing Media Streaming Device

- Created a media streaming device which enhances the video watching experience in slow network, with offline video storage and streaming capability and the device can download the content over Wi-Fi, built using Raspberry pi with linux kernel
- Built a chrome extension that acts as mediator for node server and passes user requests to node server

## ACADEMIC PROJECTS

### Prediction of credit card payments done by clients using Classification Algorithms | Machine Learning

- Performed data cleaning and imputation for a dataset containing 300,000 rows using numpy and pandas package
- Implemented Machine Learning models – kNN, Logistic Regression, Decision trees, Random Forest

### Signature Fraud Detection System | Python

- Developing a signature fraud detection system using python, Django framework, TensorFlow and Keras libraries
- Using Convolution Neural Network for differentiating genuine and forged signatures based on dissimilarity metric

## AWARDS AND LEADERSHIP/COORDINATION EXPERIENCE

- Awarded Deep Skill Award for automating mapping process and reducing development efforts by 20 percent
- Awarded Manager's Choice Award for the innovation idea at Yearly Hackathon at IBM

## Patent

- Intelligent Device for Landslide Prediction - [Link](#)

**Ankit Ramrakhyani**

Long Beach, CA

Ankit.ramrakhyani01@student.csulb.edu, 510-902-9950, [www.linkedin.com/in/ankit-ramrakhyani](http://www.linkedin.com/in/ankit-ramrakhyani)

## EDUCATION

**California State University Long Beach**

Long Beach, CA

**Masters' in Computer Science**

Aug'21 - Present

- Coursework: Advanced Topics in Programming Languages, Object-Oriented Analysis and Design, Advanced Analysis of Algorithms

**Lakshmi Narain College of Technology, Indore, India**

**Bachelor of Computer Science, 7.5 CGPA**

Aug'14 - July'18

## TECHNICAL SKILLS

**Programming Languages:** JAVA, C, C++, HTML, Ruby, Rails, SQL, Haskell

**Tools:** Eclipse, Xcode, Replit

**Platforms:** Windows, Mac

## EXPERIENCE

**Modace Technologies, Database Developer**

May 2019–May 2021

- Collaborated as an integral part of a team of 5 ETL developers.
- Led completion of 30+ ETL projects to client specs. Met or exceeded client requirements 100% of the time.
- Completed all individual projects and sprints 20% faster than assigned targets.

**Webcraft IT, Indore, India – Database Engineer**

August'18 – August' 19

- Worked on developing an e-commerce website.
- Ensured cross platform optimization for web browsers and mobile phones using Bootstrap framework.
- Implemented and managed backend services in managing databases.
- Integrated a payment gateway allowing customers to pay securely on the platform.

**Webcraft\_IT, User Interface Design Intern**

Jun 17 - Sep17

- Designed and implemented usability tests
- Updated web pages using Drupal
- Recommend changes to interface to improve user experience

## ADDITIONAL INFORMATION

- Among the top performers in the National Cyber Olympiad and International Mathematics Olympiad for 3 years.
- Secured in top 5 position for showcasing Major Project in 'National Conference on Emerging Trends and Research in Computer Science & Engineering'.
- Volunteered in various blood donation and cleanliness awareness camps.



## **AISHWARYA BHAVSAR**

[aishub02@gmail.com](mailto:aishub02@gmail.com)

+1 (562)338-2279

### ➤ **Academic Qualifications**

**Master's in Computer Science (MS in CS)**

Aug 2019 - May 2021

**California State University Long Beach**

**Final Grade:** 4 on a scale of 4

**Bachelor of Engineering, Information Technology (BE IT)**

July 2015 – June 2019

**Accomplished** from University of Mumbai, India

**Final Grade:** 9.7 on a scale of 10

**Accomplishments:** Silver medalist for overall 2nd rank in bachelor's degree

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### ➤ **Professional Experience**

**SENIOR SYSTEM ARCHITECT**

**CISCO San Francisco, USA**

- Provided oversight and support for virtual NLB servers running Windows terminal server.
- Designed Cisco UCS architecture, procured chassis, blades and software.
- Redesigned terminal services environment improving performance and reducing donor recruiting calls lost by 70%.
- Reduced hardware by 60% via consolidation and virtualization.
- Created and implemented process to synchronize data at remote sites improving performance by 1800%.

**LEAD SYSTEMS ARCHITECT**

**WENDY'S USA**

- Experience with systems engineering disciplines and requirements management processes
- Strong Active Directory, DNS, IIS and PowerShell and VB Script knowledge desired
- AWS certification or experience with wide range of AWS services: CloudFormation, CodePipeline, DynamoDB, Redshift, EC2, S3, and others
- Experience within the hardware domain and embedded software design
- Experience in Stores Management Systems (SMS), Flight Data Recorders (FDR), Cockpit Voice Recorders (CVR) and Health Usage Management Systems (HUMS)
- Understanding of how to use architecting to support senior level enterprise decision making
- Identifying and defining future space capability needs
- Identifying key architecture and system level trades
- Assessing the performance of current and future architecture concepts.

### ➤ **Additional Certifications**

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- Machine Learning: Hands on Python and R
- Cybersecurity (Microsoft)
- Microsoft Azure 900
- Automation Anywhere
- Advanced Cloud Practitioner
- Oracle PL/SQL
- Technology Quotient Training – AI, Blockchain, Agile and Devops, Cloud, Security, and Data

### ➤ **Technical Skills**

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**Programming language:** Java, C, Python, Android, Bash (Basic Level), Data Structures & Algorithms

**Web Technologies:** HTML, HTML5, CSS3, Javascript, JQuery, PHP, AJAX

**Framework:** Bootstrap, UI/UX Designing, Forms & Reports Builder, TurboC++

**Database:** MySQL

**Software:** XAMPP, Android Studio, Unity, AutoCAD, Anaconda (Jupyter Notebook), JDA Application: JDA, Aloha Point Of Sale.

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### ➤ **Projects**

**Skin Disease Detection Using Image Processing with Data Mining and Deep Learning:** A detection system is proposed which enables the users to detect and recognize skin disease from photos provided by the patient.

**Project Deep Blue:** Created an OCR software for handwriting recognition to assist data entry in nonprofits

**Project e-Kisan – The Farmer’s First Approach:** A web application that establishes a direct purchase system linking retailers to buy products directly from farmers without the interruption of middleman.

**Event Management Website:** Website to provide information and booking assistance for four events

**Virtual Environment:** Using Unity Application Software.

**FabricRent:** Connects people and organizations interested in renting clothes

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### ➤ **Publication**

Skin Disease Detection Using Image Processing with Data Mining and Deep Learning, IRJET, Vol 6, Issue 4, Apr 2019 <https://www.irjet.net/archives/V6/i4/IRJET-V6I4954.pdf>

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### ➤ **Achievements and Awards**

- **Accenture Pinnacle Award - Best Employee:** For showcasing extra ordinary business outcomes by leveraging the power of innovation, agility, collaboration and client-centricity across sales and delivery.
- **Accenture Recognition:** Recognition from Accenture Leadership (Delivery Unit Lead) stating appreciation for all the efforts put in to deliver high quality work for the project and organization.



## REQUIREMENTS UNDERSTANDING

- ☐ South Coast Air Quality Management District (South Coast AQMD) is the local government agency designated by federal and state law with the responsibility for regulating air pollution in the South Coast Air Basin.
- ☐ The Basin comprises Los Angeles, Orange, Riverside and the non-desert portion of San Bernardino Counties.
- ☐ The Information Management(IM) unit has a staff of computer specialists, systems analysts, and programmers to provide computer support services to South Coast AQMD components.
- ☐ However, IM does not maintain sufficient staff to meet the current and anticipated demand for enhancing current systems, developing new systems, and other necessary support services.
- ☐ Therefore, through this RFP, the South Coast AQMD is seeking the services of qualified organizations to manage and staff specific tasks.
- ☐ South Coast AQMD is looking for consultants capable of providing a full range of high-quality systems development, maintenance, and support services; enterprise resource planning; customer relationship management; and content management system services.
- ☐ As specific agency needs or projects arise, a Work Plan Request will be released to the retained consultant(s).
- ☐ For each Work Plan Request, the consultant must submit a Work Plan which includes both a technical and cost proposal.
- ☐ At the South Coast AQMD's sole discretion, a Task Order will be awarded based on consideration of cost and technical merit.
- ☐ We would develop our custom application based on feedback that we gather from your team during the planning and wireframe stages of your contract.
- ☐ Our custom theme would include custom post types, custom editing features, dynamic page templates, situational CSS styles, and many more advanced WordPress features developed specifically for your organization.





## Deliverables

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### How to define key project deliverables?

- Ask the right questions
- Gather the requirements
- Identify the KPIs
- Review and approve



### INTERNAL DELIVERABLES

- Project Business Case
  - Initial briefing report
  - Process maps
- Governance Plan
  - Project plan
  - Progress reports
  - Project Schedules
  - Project Budgets
  - Final report
- Statement of Work
  - Requirement specification (document)
  - Resource Availability Reports
  - Set up of Test system
  - Set up of Live system

### EXTERNAL DELIVERABLES

- Responsive
  - User interface
  - Backend development
  - Database Performance





- Effective
  - Data migration
  - User training
  - Security and Maintenance

## Components

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- 1. Scope Statement :** A scope statement outlines the entire project, including any deliverables and their features, as well as a list of stakeholders who will be affected. It will also include any major project objectives, deliverables and goals to help measure success.
- 2. Critical Success Factors:** Critical Success Factor is an important element of Project Management that is necessary for an organization or project to achieve it's mission.
- 3. Work Breakdown Structure:** Breaking work to small tasks is a common productivity technique used to make work more manageable and approachable. Work Breakdown Structure is a tool that utilizes this technique to integrate cost, scope and schedule baselines.
- 4. Schedule:** Scheduling in project management is the listing of activities, deliverables, and milestones within a project. A schedule also usually includes a planned start and finish date, duration, and resources assigned to each activity. Effective project scheduling is a critical component of successful time management.





## Components

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- 5. Quality:** Project quality management encompasses the processes and activities that are used to figure out and achieve the quality of the deliverables of a project coupled with customer satisfaction.
  
- 6. Human Resources Plan:** Is a continuous process of systematic planning ahead of time to achieve the optimum use of the most qualified employees.
  
- 7. Stakeholder List:** Stakeholders can be internal or external to an organization. Internal stakeholders are people whose interest in a company comes through a direct relationship, such as employment, ownership, or investment. External stakeholders are those who do not directly work with a company but are affected somehow by the actions and outcomes of the business. Suppliers, creditors, and public groups are all considered external stakeholders.
  
- 8. Communication:** Communication does not limit itself until the delivery of a project but also after the delivery. Supporting and client until they are satisfied and constantly taking keen interest in our feedback loop.





- 9. Risk Register:** A risk register is a tool used to track and monitor any risks that might impact the projects. Risk management is a vital component of project management because it's how you proactively combat potential problems or setbacks.

## Components

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- 10. Procurement Plan:** Procurement planning is essential for businesses to minimize their purchase costs while maintaining their quality and quantity of goods standards.
- 11. Budget:** Budget is a crucial part of projects there is no guarantee that a bigger budget does not necessarily provide a better experience.





## DETAILED WORK PLAN

### 1. Requirements are classified as below:

- Requirement Gathering
- Draft Requirements Document
- Requirements Document

### 2. Quality Attribute Analysis:

- Performance
- Availability
- Security
- Modifiability
- Usability

#### 2.1 Performance

It drives the air pollution tracking website and mobile application, the capability of supporting simultaneous users and checking the air pollution in less than 5 seconds under peak load.

#### 2.2 Availability:

Availability defines the proportion of time that the system is functional and working. It can be measured as a percentage of the total system downtime over a predefined period. It drives the website to support 24/7 operations with less than 4 hours of downtime.

#### 2.3 Security:

It is important to protect the system and its data from external threats like virus/malware. Security is responsible for the ability of the system to reduce the likelihood of malicious or accidental actions as well as the possibility of theft or loss of information.



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## **2.4 Modifiability:**

It drives the system to make changes without affecting the existing system functionality and the change is made within time and budget.

## **2.5 Usability:**

Usability is the degree to which a software can be used by specified consumers to achieve quantified objectives with effectiveness, efficiency, and satisfaction in a quantified context of use. It drives the Air pollutants tracking website to be more efficient and easy to use.

Use cases selected:

- Sign up Page
- Select the city
- Please on the location
- Map with pollution of the city
- Download the city map
- Post data of the cities and customer feedbacks

## **3. Data Model:**

- Domain Model: Entity objects and their relationships
- Entities: Actors and city with pollution
- Association: Customer and Feedback
- Inheritance: Admin, Client, Pollution Data, location, and User Login
- Aggregation: Tracking of pollution and History Record.

## **4. High Level Design:**

Layers and Packages

- User Interface: Webpages, Mobile App
- External Interface: Web Services
- Business Services: Tracking of pollution, Request of pollution, Feedback, Account Mgmt.
- Data Access: Record Data, User Data, Service Data, Work Request Data, Feedback
- Infrastructure Services: Reporting, Security, Logging
- COTS: Windows OS, MongoDB Server, Email Services.



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## **5. Testing:**

Software Testing is intended to uncover all the errors that were made during the Software Design and Construction phases.

The main purpose of Testing is to test the Quality of the System.

The various Test cases involved in this System are as follows:

1. Identify the location with the pollution index.
2. User Registration.
3. Mapping of data with correct cities.
4. Sequencing of data from the database.
5. Update cities' pollution data.

## **6. Architecture Style:**

The structural style we will be utilizing is Component-Based Architecture.

It consists of software components that can be individually developed and executed.

Rationales for component-based architecture can include:

- Having well defined components for the design of air pollution tracking websites will allow for a higher level of abstraction.
- One component-based architecture can be implemented in many ways and still be able to
- consist of all the software components.
- The relationship between software components and user defined requirements can be made clear
- using a requirement traceability matrix.
- Hide state representations.
- Be independent (low coupling).
- Propagate exceptions via the component interface





## **7 Design Decision:**

### **7.1 Technology Analysis:**

The technology ASP.NET required to build this web application has the following advantages:

- It allows for separation of concern
- Reduces coding time
- Consists of some of out-of-the box features

### **7.2 User Interface:**

HTML5:

- HTML5 is a markup language used for structuring and presenting content on the World Wide Web.
- HTML is the combination of Hypertext and Markup language.

CSS:

- Cascading Style Sheets describe the presentation of documents written in markup languages like HTML.

JavaScript:

- Used to provide dynamic typing, prototype-based object-orientation and first-class functions.

### **7.3 Programming Language:**

C#:

- Used to create server pages for the .NET framework.
- Includes static typing, strong typing, lexically scoped, imperative, declarative, functional, generic, object-oriented, and component-oriented programming disciplines.



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#### **7.4 Web Server:**

IIS:

- A .NET web application can be deployed using Internet Information Services (IIS), an extensible web server created by Microsoft.
- Internet Information Services is an extensible web server software created by Microsoft for use with the Windows NT family. IIS supports HTTP, HTTP/2, HTTPS, FTP, FTPS, SMTP and NNTP

ASP.NET:

- ASP.NET is an open-source, server-side web-application framework designed for web development to produce dynamic web pages.
- It was developed by Microsoft to allow programmers to build dynamic web sites, applications and services.

#### **7.5 Framework:**

MVC:

- MVC (Model-View-Controller) is a pattern used in software design to implement user interfaces, data, and logic.

#### **7.6 Database:**

MongoDB Server:

- MongoDB is a source-available cross-platform document-oriented database program.
- Classified as a NoSQL database program, MongoDB uses JSON-like documents with optional schemas



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## **Stages in Agile Development**



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## PROJECT PLAN

WBS NUMBER	TASK NAME	Description
A	REQUIREMENT ANALYSIS AND DESIGN	Goal Achieved
1	Requirement Gathering	Collect the information about different cities
2	Draft Requirements Document	Make business requirements
3	Requirements Review	All the requirements need to be reviewed from the team
4	Draft the entire plan	Draft the timetable





5	Assigning workforce	Define the actors and assign tasks to each actor in the business plan
6	Backend Development & UI designing	Develop the web and mobile application to track the pollution
7	Acquire Domain Name	Choose the domain name by considering the parameters like cost, languages
<b>B</b>	<b>Development and Testing</b>	<b>Goal Achieved</b>
1	Database Setup	Mongo DB is used to store the data as the data is unstructured
2	Link to the Database	Front end is linked to database using C# which is the server-side language
3	Testing phase 1	Perform the unit testing of the application
4	Resolving the issues	Perform the application stability after unit testing
5	Another Phase for Testing	Perform the integration Testing





6	Resolving the issues	Perform the application stability after Integration testing
<b>C</b>	<b>Release and Maintenance</b>	<b>Goal Achieved</b>
1	Code Moving for Production	After successful testing, deploy code the production environment.
2	Project going Live	Please make sure that no file is missing
3	Maintenance	Do the maintenance work if needed
4	Monitoring and Fixing issues if any	Solve the issues if there are any.
5	Final Product Delivery	Application Deployed Successfully







**DETAILED COST**

Events	Pricing
Web Launch	\$500
App Launch	\$900
Database	\$5500
AppStore Purchase	\$2200
Templates	\$400
Designing	\$1800
Online Promotions	\$700
Total Cost	<b>\$12,000</b>



**LABOR COST**

<b>Labor Cost</b>			
<b>Requirement, Analysis and Design</b>			
Name	Hours	Cost/Hr	Cost of Labor
<b>Uditi Jain</b>	40	\$25	<b>\$1,000</b>
<b>Fouzan Khan</b>	40	\$20	<b>\$1,000</b>
Varun Bhandari	15	\$20	<b>\$300</b>
<b>Aparna</b>	10	\$30	<b>\$300</b>
<b>Aishwarya</b>	10	\$30	<b>\$300</b>
<b>Ankit</b>	20	\$30	<b>\$600</b>
<b>Development and testing</b>			
Uditi Jain	40	\$25	\$1,000
Fouzan Khan	60	\$20	\$1,200
Varun Bhandari	80	\$20	\$1,600
Aparna	80	\$30	\$2,400
Aishwarya	80	\$30	\$2,400
Ankit	80	\$30	\$2,400





Go live and maintenance			
Uditi Jain	60	\$25	\$1,500
Fouzan Khan	60	\$20	\$1,200
Varun Bhandari	80	\$20	\$1,600
Aparna	80	\$30	\$2,400
Aishwarya	80	\$30	\$2,400
Ankit	80	\$30	\$2,400
Total Labor Costs			
Uditi Jain	140	\$25	\$3,500
Fouzan Khan	140	\$20	\$2,800
Varun Bhandari	175	\$20	\$3,500
Aparna	170	\$30	\$5,100
Aishwarya	170	\$30	\$5,100
Ankit	180	\$30	\$5,400
		<b>Total</b>	<b>\$25,400</b>



## **MILESTONE SCHEDULE**



### **Requirement Analysis and Design**

Analyzing Client requirements...	Week (1,2)
Endorse the contract	Week (3)
Completion of Design Phase.	Week (4)



### **Development and Testing**

Backend Development	Week (5,6,7,8)
Bug Fixes.	Week (7,8, 9,10)
Testing and quality assurance	Week (7,8,9,10)



### **Go-Live and Maintenance**

Moving Code to Production	Week (11, 12)
Go-Live	Week (13)
Maintenance	Week (14,15)
<b>Final Product Delivery</b>	Week (16)

# PROJECT PLAN

WBS NO.	TASK NAME	START DATE	END DATE	DURATION in days
<b>A</b>	<b>REQUIREMENT ANALYSIS AND REPORT</b>	<b>12/01</b>	<b>02/09</b>	<b>801</b>
1	Engine specifications	12/01	01/11	772
2	chasis specification	12/01	01/11	772
3	Seat specification	12/02	02/23	814
4	Break system specification	12/02	01/20	780
5	Reviewing the requirements and documenting	01/16	01/29	14
<b>B</b>	<b>Desing and verification</b>	<b>01/28</b>	<b>02/14</b>	<b>18</b>
1	Ideating various designs	01/28	02/06	10
2	Analyzing the viable design and cost analysis	01/15	02/10	26
3	Reviewing the design for changes	01/18	01/31	14
4	Generating the final design and procuring components	01/31	02/02	3
<b>C</b>	<b>Development and deployment</b>	<b>02/18</b>	<b>03/26</b>	<b>38</b>
1	Fabricating the prototype	02/18	02/20	3
2	Ordering for engine and othe main components	02/18	02/23	6
3	Gathering the items for additional required items	02/18	02/26	9
4	Buikding the Off-road vehicle	02/21	02/23	3
<b>D</b>	<b>Testing the prototype</b>	<b>02/22</b>	<b>02/23</b>	<b>2</b>

# PROJECT PLAN VISUALIZATION

## Project Plan

