Title page

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**Chapter 1: Detailed Problem Statement**

1.1. Introduction

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**1.1. Introduction**

**1.2. Motivation**

**1.3. Problem Statement**

A common pattern is observed in modern day applications that we often use whether it is a restaurant finder app *Zomato* or a movie booking app *BookMyShow* and many more such applications are out there in the world of web apps. They are all a search engine around a particular entity.

All such apps have a home feed section where user can look at trending entities, sort and search entities based upon popularity and attributes of the entity itself and also a section where the user read and give reviews and comments around the entity.

The only thing these apps differ in is the “entity” they allow searching around but they share the same functionality and even aesthetics around the other features like reviewing, searching and contacting the entity via mail/phone/map directions and other mediums.

In order to automate the task of developing these applications which differ in entities, we developed a generator to provide a Minimum Viable Product (MVP) to the end user that he/she could use to perform instant prototyping, pitch the idea to investors and finally build the production code on top of the generated app.

**2. Introduction**

This document is a Software Requirement Specification (SRS) for the Minimum Viable Product (MVP) Generator. This is the initial draft for the SRS and it will be used for the extensions.This document is prepared following the standard IEEE conventions for software requirement specification.

Minimum Viable Product (MVP) generator is a tool that could automate the task of developing applications like Urban Clap (Service Finder), Zomato (Restaurant Finder), Practo (Doctor Finder), etc., and provide a Minimum Viable Product (MVP) to the end user that he/she could use to perform instant prototyping, pitch the idea to investors, and finally build the production code on top of the generated app.

The purpose of this project is to build an easy-to-use web service providing tool which a person with an idea but lack of computer engineering skills can use this utility to immediately analyze his/her idea directly looking at the prototype.

**2.1. Purpose**

The aim of this document is to specify complete description of the Minimum Viable Product (MVP) Generator to be developed. It is the basis for agreement between suppliers and customers about the product to be developed. Through this document, the workload needed for development, validation and verification will ease. To be specific, this document is going to describe functionality, external interfaces, performance, attributes and the design constraints of the system which is going to be developed. Therefore, intended reader groups for this software requirement specification are customers or users.

**2.2. Scope**

I don’t know what language to use but this is how I have seen open source projects show their scope. Please research other SRS to get better idea, preferably look at YeoMan.

What this project isn’t

* A non-modular code generator.
* Hard to customize code generator
* Responsible for generating problem specific code.

**2.3. Overview**

We are going to focus on describing the system in terms of product perspective, product functions, user characteristics, assumptions and dependencies on the following section of this document. Next, we will address specific requirements of the system, which will enclose external interface requirements, requirements of the system, performance requirements, and other requirements.

**3. Overall Description**

This section gives background information about specific requirements of the minimum viable product generator to be developed in brief. Although we will not describe every requirement in detail, this section will describe the factors that affect the final product.

**3.1. Product Perspective**

This software product is eventually intended to automate the process of development of modern day web based applications in a modular and component based approach. Product will be deployed to website and mobile platforms and users of the product will access it on these platforms. Website and mobile platforms will serve as the interface for the user data and the execution of provided functionalities.

This product generator cuts down the development process to merely seconds. The end-user will supply an options file describing the entity and other aspects of the project, and the generator would work its way out to compile entire service including Server, Database Configuration, Website & Mobile Applications.

The user will be able to interact with the generator using a Command Line Interface. For example (2.1.1):

**$** **mvpgenerate** LawyerFinder options.json

**>** *Parsing options file (options.json) (100%)*

**>** *Generating database modules (100%)*

**>** *Generating server modules (100%)*

**>** *Generating UI modules (100%)*

**>** *Optimizing & cleaning (100%)*

Your project has been successfully generated in ./LawyerFinder directory !

**3.2. Product Functions**

This new product, minimum viable product generator, allow users to use functionalities which have been explained above in the introduction. Required functionalities of the product can be summarized in five categories; user management requirements, code editor requirements, debugger requirements, command line interface requirements and interface requirements. Overall description of the requirements can be found below;

**3.2.1. User Management Requirements**

This category of requirements is related to user authentication mechanism and workspace management of users. Each user will get to install this software on his/her system using command line interface and will be assigned to a workspace on the same system. Users will perform all the functionality over this workspace.

Project team is relatively small, hence GitHub is sufficient for code organization and collaboration. Telegram will be used for discussions while GitHub issues will be used for issue related discussions.

**3.2.2. Code Editor Requirements**

One of the most important functionality expected from such an application is a code editor which will ease the user’s life. Code editor will be the main interface that developers deal with. It supports variety of programming language with highlighting, syntax checking, auto-indentation and language specific auto-complete.

Vim editor will be used as the code editor with following plugins for JSX and JavaScript language:

* **vim-javascript** by pangloss on GitHub
* **yajs.vim** by othree on GitHub
* **vim-jsx** by mxw on GitHub

**3.2.3. Debugger Requirements**

Debugger is the main tool that developers can test and debug their target program. Debugger of the product should allow setting and displaying breakpoints on the code. It will also provide functionality of stopping/continuing of the execution of debugger. Finally, it will provide an expression interface where user can enter an expression and observe the value of expression at each step.

* React DevTools for Firefox & Chrome will be used to debug React App

**3.2.4. Terminal Requirements**

As an important part of the software development process, there should be a command line interface where user can work in old fashion and accomplish complicated tasks such as configuring NodeJS modules etc. The following scenario of generating a Lawyer Finder application tells how reports should be generated.

**$** **mvpgenerate** LawyerFinder options.json

**>** *Parsing options file (options.json) (100%)*

**>** *Generating database modules (100%)*

**>** *Generating server modules (100%)*

**>** *Generating UI modules (100%)*

**>** *Optimizing & cleaning (100%)*

Your project has been successfully generated in ./LawyerFinder directory !

In case of error, proper details of the issue should be communicated to the user in a log file.

**3.2.5. Interface Requirements**

\*\*(to be added/edited with content)

**3.3. User Characteristics**

Users of this minimum viable product generator can be anyone of any field. Basically, a person with an idea but lack of computer engineering skills can use the utility to immediately to analyze his/her idea directly looking at the prototype. Also clear documentation and tutorials about the product feature will be provided.

**3.4. Constraints**

The project is expected to run well on unix based Operating Systems (Linux/ Mac OS X). Windows support isn’t required but would be preferable.

?? ismei aur kuch add karr saktey hain ??

\*\* need to write about portability and modularity of the product

**4. Specific Requirements**

With this section and later, we will describe the requirements of the product in detail. Basically, we will categorize requirements in three which are namely external interface requirements, functional requirements and non-functional requirements. Except non-functional requirements, requirements of the product will be detailed under this section with brief information and later sample input-output sequence and low of events will be given.

DFD :

