**Requirement Gathering and Analysis Phase**

**Solution Requirements (Functional & Non-functional)**

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| Date | 5 July, 2024 |
| Team ID | SWTID1720019378 |
| Project Name | Project - HouseHunt |
| Maximum Marks |  |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Registration | Registration through Form  Registration through Gmail |
| FR-2 | User Confirmation | Confirmation via Email |
| FR-3 | Search Filters | Search on the basis of location, price range, and property type |
| FR-4 | Market, Environment and neighbourhood insights | Statistical as well as visual data providing this information |
| FR-5 | Post your Property Functionality | High quality pictures and videos uploading portal for landlords |
| FR-6 | Payment Page | Authentication and bank to bank smooth transfer |
| FR-7 | Tenants Plan Page | Establishing a communication framework |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | The website will have a user-friendly interface that is easy to navigate for all users and will appeal to both buyers and sellers. |
| NFR-2 | **Security** | 1)**Encryption**: We ensure all sensitive data (e.g., personal information, payment details) is encrypted both in transit (using HTTPS) and at rest.  2)**Authentication and Authorization**: We will implement secure authentication mechanisms (e.g., multi-factor authentication) and proper authorization controls to protect user accounts and data.  3)**Data Protection**: We comply with data protection regulations (GDPR, CCPA) to safeguard user privacy and ensure proper handling of personal data. |
| NFR-3 | **Reliability** | 1)**High Availability**: We aim to minimize downtime by using redundant servers, load balancers, and failover mechanisms to ensure the website is always accessible.  2) **Fault Tolerance**: We will implement strategies to recover from failures gracefully without impacting user experience, such as database backups and disaster recovery plans.  3) **Monitoring and Logging**: Monitoring the website's performance and log errors to proactively identifying and addressing issues that may affect reliability. |
| NFR-4 | **Performance** | 1) **Response Time**: We will ensure fast response times for page loading and data retrieval to enhance user experience.  2)**Scalability**: We will design the website to handle increasing numbers of users and transactions without significant degradation in performance.  **3)Caching**: Utilizing caching mechanisms (e.g., CDN, browser caching) to improve response times and reduce server load. |
| NFR-5 | **Availability** | 1)**Uptime Guarantee**: We will define and meet service level agreements (SLAs) for website availability to ensure it meets user expectations.  2)**Geographic Redundancy**: Use of multiple data centers or cloud regions to ensure the website remains accessible even during regional outages.  3)**Scheduled Maintenance**: We will plan and communicate scheduled maintenance windows to minimize disruptions to users. |
| NFR-6 | **Scalability** | 1)**Horizontal Scaling**: Designing the architecture to support horizontal scaling by adding more servers or cloud instances to handle increased traffic and data.  2) **Elasticity**: Automatically scale resources up or down based on demand to optimize performance and cost-effectiveness.  30 **Database Scalability**: Implementing scalable database solutions (e.g., sharding, replication) to handle growing datasets and concurrent transactions. |