

**Project Design Phase-II**  
**Solution Requirements (Functional & Non-functional)**

Date	25 June 2025
Team ID	LTVIP2025TMID51488
Project Name	Measuring the Pulse of Prosperity
Maximum Marks	4 Marks

**Functional Requirements:**

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	<ul style="list-style-type: none"><li>Registration through form (email &amp; password)</li></ul>
		<ul style="list-style-type: none"><li>Registration via Gmail OAuth</li></ul>
		<ul style="list-style-type: none"><li>Registration via LinkedIn OAuth</li></ul>
FR-2	User Confirmation	<ul style="list-style-type: none"><li>Confirmation via email link</li></ul>
		<ul style="list-style-type: none"><li>Confirmation via OTP code</li></ul>
FR-3	Dashboard Viewing	<ul style="list-style-type: none"><li>View global map of scores</li></ul>
		<ul style="list-style-type: none"><li>Apply filters (country, pillar, year)</li></ul>
FR-4	Data Analysis	<ul style="list-style-type: none"><li>View pillar comparisons across countries</li></ul>
		<ul style="list-style-type: none"><li>View time series trends for selected countries</li></ul>
FR-5	Report Export	<ul style="list-style-type: none"><li>Export current dashboard view to PDF</li></ul>
FR-6	User Interaction	<ul style="list-style-type: none"><li>Interactive tooltips and drill-down capability</li></ul>

**Non-functional Requirements:**

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

N F R	Non-Functional Requirement	Description
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<b>N o.</b>		
N F R- 1	<b>Usability</b>	The interface will be intuitive, accessible, and follow UI best practices (e.g., error prevention, minimal design, easy navigation) <a href="https://selecthub.com">selecthub.com</a> .
N F R- 2	<b>Security</b>	Data in transit and at rest must be encrypted (HTTPS + OAuth). OAuth integrations follow industry standards .
N F R- 3	<b>Reliability &amp; Availability</b>	Dashboards must be available $\geq 99.5\%$ with minimal downtime. Error handling and retries ensure system robustness .
N F R- 4	<b>Performance</b>	Dashboards load within 2 seconds under normal conditions; page render should finish in $<3$ seconds .
N F R- 5	<b>Scalability</b>	The system should support up to 10,000 concurrent users without degradation .
N F R- 6	<b>Maintainability &amp; Extensibility</b>	Codebase follows modular design (CSS/JS separated), supporting future enhancements and easy maintenance .

## Explanation of Key NFRs

1. **Usability:** Follows standards for clear error messages, visible tooltips and navigation to minimize user frustration  
[research.cs.queensu.ca/~en.wikipedia.org/~redhat.com/5](https://research.cs.queensu.ca/~en.wikipedia.org/~redhat.com/5).
2. **Security:** Implements HTTPS/TLS and secure OAuth logins for user authentication. Email confirmations and OTP help prevent unauthorized access.
3. **Performance:** Dashboards utilize Tableau extracts and embedded code for optimized loading speed [databox.com/1community.qlik.com/1](https://databox.com/1community.qlik.com/1).
4. **Scalability:** Leveraging cloud-based static hosting (GitHub Pages) and efficient data models allows handling large traffic and data volume with no performance loss .

5. **Reliability & Availability:** With redundancy and monitoring, the system maintains high uptime, error detection, and reliability features [perforce.com](https://perforce.com).
6. **Maintainability:** Modular code, clear documentation, and standard version control practices ensure future updates remain easy and consistent.