**Scoping Paper: Network Speed Test Application**

## Objective

To develop a network speed test application that allows users to measure their internet connection speed, including download speed, upload speed, and latency.

## Scope

The application will be designed for desktop. It will provide a user-friendly interface and accurate results by conducting tests against reliable servers.

## Features

Core Features:

1. Download Speed Test: Measure the speed at which data is downloaded from the internet.
2. Upload Speed Test: Measure the speed at which data is uploaded to the internet.
3. Latency Test: Measure the delay in data transmission.
4. Result Summary: Display a summary of the results with easy-to-understand metrics.
5. History Tracking: Store past test results for user reference.
6. Technology Stack
7. Frontend: HTML, CSS, JavaScript, React.js
8. Backend: Server: Node.js with Express.js
9. Backend: Database: MongoDB for storing test results
10. Backend: Speed Test API: Integration with services like Ookla, M-Lab, or custom server-based tests

## Development Phases

**Phase 1: Requirements Gathering and Planning**

Identify key stakeholders and gather requirements.

Define user personas and use cases.

Create detailed project plan and timeline.

**Phase 2: Design**

UI/UX design for web and mobile applications.

Wireframes and mock-ups creation.

User flow diagrams.

**Phase 3: Development**

Frontend and backend development.

Integration with third-party speed test APIs.

Implementation of core and advanced features.

**Phase 4: Testing**

Unit and integration testing.

User acceptance testing (UAT).

Performance and load testing.

**Phase 5: Deployment**

Deploy to production environment.

App store submission for mobile applications.

Setup monitoring and maintenance plans.

## Timeline

**Total Duration:**

This application is expected to be created within 4 - 6 weeks.

**Milestones:**

Week 1: Requirements, Planning and UI/UX Design

Week 2: Front End Development

Week 3: Back End Development

Week 4: Development Completion

Week 5: User testing, acceptance testing and documentation writing.

Week 6: Deployment and wrap-up.