The main part

Introduction:

Periodical publishing software is designed to support the creation and production of printed newspapers, magazines, and other multi-page publications. The traditional publishing process often requires using multiple tools for text editing, image layout, styling, and page composition. Our goal is to combine these capabilities into a single solution specifically tailored for print publications.

The system will provide tools for designing covers, managing articles and images, automatically generating a table of contents, applying styles and templates, as well as flexible page layouts including advertisements. This solution will simplify the work of editors and designers, reduce the time required to prepare each issue, and ensure professional-quality output.

In the first stage (Stage 1), the core functionality for single-user layout will be implemented. In the next stage (Stage 2), the system will become multi-user, with defined roles (author, copy editor, illustrator, editor-in-chief, etc.), enabling collaborative work and reuse of content from previous issues.

Description of business roles:

- Zhao Song Tao – Full-Stack
- Pronin Nikolay – Full-Stack

Functional requirements:

1. **Cover Page**

   - Title of the publication.
   - Issue number and date.
   - Cover image.

2. **Articles**

   - Articles contain title, author, text and necessary images, which cannot be modified by the layout designer.
   - Automatic text formatting (font, size, columns).

3. **Table of Contents**

   - Automatic generation based on article titles and page numbers.
   - Updates dynamically when content or layout changes.

4. **Styling and Templates**

   - Support for predefined fonts.
   - Templates for standard page layouts.
   - Automatic headers and footers with issue number, date, and page number.

5. **Page Layout**

- Tools for placing text, images, and articles on pages.
- Automatic page numbering.
- Adjustable margins.
- Multi-column text formatting.

6. **Advertisements**

- Advertisement blocks defined separately from articles.
- Support for text and image ads.
- Optional automatic placement of ads in free space.

Non-functional requirements:

1. **Scalability**

- The system must support creating publications of at least 8 pages without noticeable performance issues.
- It should be possible to extend the system in future stages to handle multi-user workflows.

2. **Performance**

- Loading time for a publication must not exceed 10 seconds.
- Response to user actions (placing an article, adding an image, updating layout) must not exceed 0.2 seconds.

3. **Usability**

- The interface must be intuitive for editors and layout designers without requiring special training.
- Automatic formatting should minimize the need for manual adjustments.

4. **Extensibility**

- The system should allow adding new layout templates, advertisement block types, and styling options without major code changes.
- Future stages must support role-based collaboration (author, editor, illustrator, etc.).

5. **Reliability**

- In case of system errors, work should be automatically saved.
- The system must prevent loss of data when switching between pages or templates.

6. **Security**

- Unauthorized users should not be able to access or edit publications.