МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ  
РОССИЙСКОЙ ФЕДЕРАЦИИ

федеральное государственное автономное   
образовательное учреждение высшего образования  
«Самарский национальный исследовательский университет   
имени академика С.П. Королева»

(Самарский университет)

Институт информатики, математики и электроники

Факультет информатики  
Кафедра суперкомпьютеров и общей информатики

**Отчет по лабораторной работе №1**

Дисциплина: «Project Management   
(Менеджмент разработки программного обеспечения)»

Тема: **«Создание проекта»**

Выполнил: Моссоулина О.А.

Группа: 6233-010402D

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Задание

**1. Author's first, last name**

Olga Mossoulina

**2. Project name**

Development of web interface for constructing a textured surface on the basis of the periodic and self-similar structures with online sales possibility

**3. Project scientific part**

**3.1 Scientific objectives of the project**

The goal of the project is to develop a set of programs for modeling periodic and self-similar structures and explore their spatial spectrum.

The goal of the project will be achieved by creating a web application that will model periodic and self-similar structures and their spatial spectrum with a single database.

**3.2 Scientific novelty of the project**

There are various ways of modeling random environments, including the turbulence of the atmosphere and reservoirs. One way is using of the random fractal structures. The regular fractals are characterized by self-similarity and fractional dimension. The spatial spectrum of such structures also has self-similarity properties, and therefore the diffraction pattern of optical radiation on the fractal structure can be used to determine the characteristics of the structure itself. Moreover, the property of self-similarity makes it possible to use even a small part of the spatial spectrum to obtain an image of the original object.

**4. Project commercial part**

**4.1 Project results application, potential consumers**

The results of the project will be useful to anyone who deals with the design of optical systems or work with physical processes modelling: scientific laboratories.

**4.2 Existing analogs, competitors**

3D-programs such as 3D Printed Surface Textures, Pixplant, Texture Painting, mathematical package.

**4.3 Implementation plan by stages, time to implement, cost**

Fist stage: Application design 2 months

Number of employees, skills: 1 employee, design architect of program and optics skills

2 employees, 5 days/week, 8 weeks, 8 hours, $10/hour => 2\*5\*8\*8\*10 = $6400

Stage budget: $6400

Second stage: Development of web application 3 month

Number of employees 4 employees, full-stack developers and consultant at optical physics skills.

3 employees, 5 days/week, 12 weeks, 8 hours, $15/hour + 1 employees, 5 days/week, 12 weeks, 8 hours, $10/hour => 3\*5\*12\*8\*15 + 1\*5\*12\*8\*10 = $21600 + $4800 = $26400

Stage budget: $26400

Third stage: the testing of software package. 1 month

Number of employees, 2 employees, testing specialist and consultant at optical physics skills:

2 employees, 5 days/week, 4 weeks, 8 hours, $10/hour => 2\*5\*4\*8\*10 = $3200

Stage budget: $3200

Fourth stage: Adding template surfaces, parameters, metrics, comparison of the developed program with the analytical solution.

Number of employees 1 employees, optical physics skills:

1 employees, 5 days/week, 4 weeks, 8 hours, $10/hour => 1\*5\*4\*8\*10 = $1600

Stage budget: $1600

Total time duration: 7 months

Total budget: : $37600