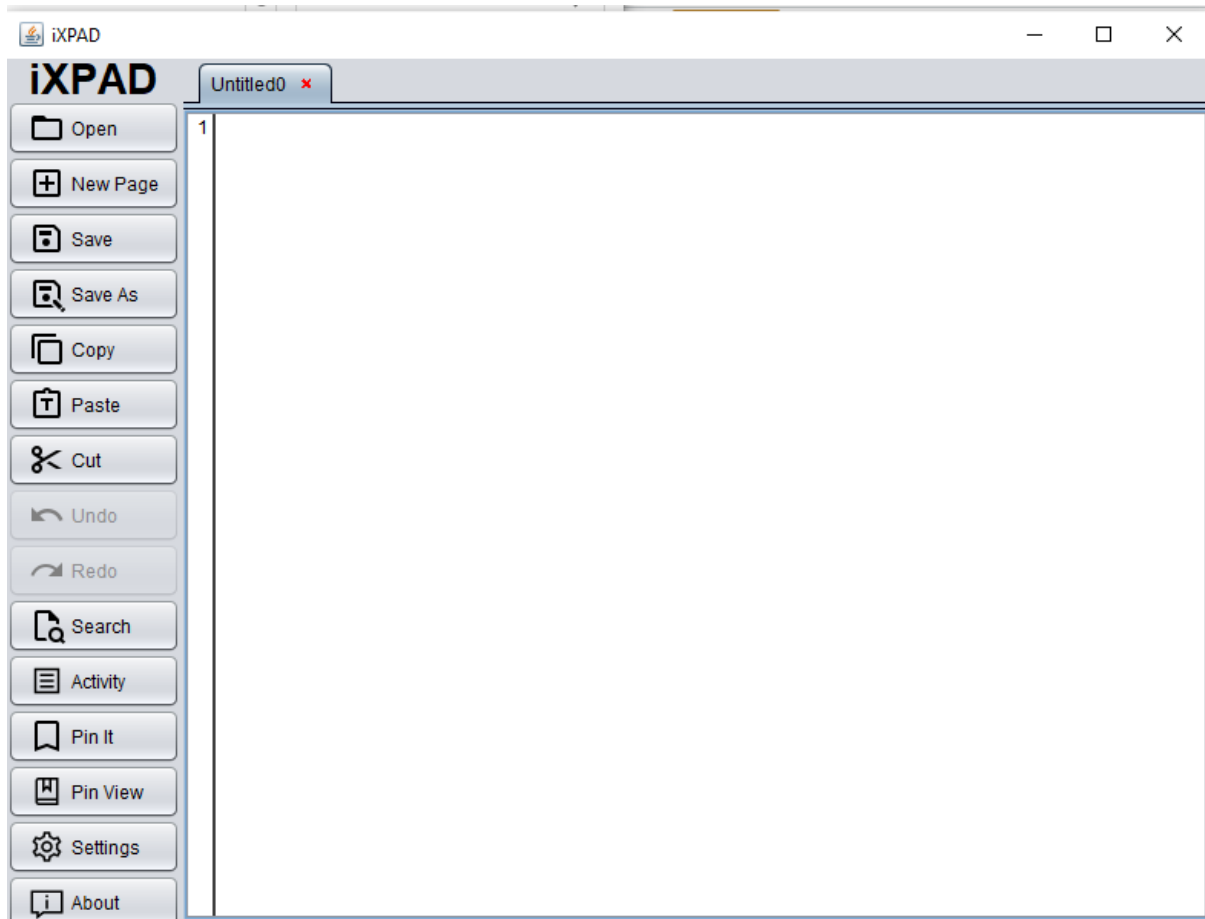


Project Report of iXPAD
Course Title: Software Project Lab-I
Course Code: SE2112



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Introduction

This is a project report for Software Project Lab-I. This project is developed during the 3rd semester of BSSE 1st Batch, IIT, NSTU. Our project is to develop a simple text editor. But this editor will produce many features like dictionary, syntax highlighting for programming languages, bookmark the opened file etc.

Software Project Description

Story

We know many notepad applications like KWrite, MousePad, Microsoft Notepad etc. But they don't have some features like dictionary, recent activity, bookmarking. So our goal was to develop an application including those and many other features.

Requirements

In product development and process optimization, a requirement is a singular documented physical or functional need that a particular design, product or process aims to satisfy.

Functional requirements

1. Line Numbers
2. Multiple Tabs
3. Light theme
4. Bookmarking ability
5. Checking duplicity between two files
6. Capitalization of sentences or words
7. Show recent opened files
8. Syntax highlighting for C++ programming languages
9. Dictionary

Non-functional requirements

1. Find and replace for opened text file
2. Tree view for bookmarking and recent opened files
3. Undo redo support

Proposed Process Model

For developing software we need to follow some Software Development Methodologies. Like Agile Software Development, Feature Driven Development (FDD), Joint Application Development (JAD) etc.

From those methodologies, our software process model is Agile Model. Agile model is a combination of iterative and incremental process models with focus on process adaptability and customer satisfaction by rapid delivery of working software product. Agile Methods break the product into small incremental builds. These builds are provided in iterations. Each iteration typically lasts from about one to three weeks. Every iteration involves cross functional teams working simultaneously on various areas like –

- Planning
- Requirements Analysis
- Design
- Coding
- Unit Testing and
- Acceptance Testing.

At the end of the iteration, a working product is displayed to the important stakeholders.

Project Team

Team Name

Our team name is iX.

Team Member

1. Abrar Hossain (ASH1825005M)
2. Azad Hossain (ASH1825014M)
3. Saima Nawal (MUH1825041F)

Proposed Timeline and Actual Timeline

Timeline basically shows the chronological order of events that we plan to do in our project. It is supposed to give a broad overview of the project at a glance.

Table 01: Proposed Timeline

Task	Timeline
Proposal	15th January
Requirement analysis	Within 21st January
Design, study	Within 28th January
Coding	Within 28th February
Testing	Within 7th March

Table 02: Actual Timeline

Task	Timeline
Proposal	15th January
Requirement analysis	Within 21st January
Design, study	Within 28th February
Coding	Within 28th April
Testing	Within 7th May

Requirements Traceability Matrix (RTM)

Requirement Traceability Matrix (RTM) captures all requirements proposed by the client or software development team and their traceability in a single document delivered at the conclusion of the life-cycle. In other words, it is a document that maps and traces user requirement with test cases. The main purpose of RTM is to see that all test cases are covered so that no functionality should miss while doing Software testing. We used forward traceability here.

Table 03: Software Traceability Matrix (RTM)

Requirement No.	Requirement Description	Test Case	Status
01	Basic Notepad functionality	T01,T02	T01 passed, T02 passed
02	Search and replace for a text	T03,T04	T03 passed, T04 passed
03	Line number for the document	T05,T06,T07	T05 passed,T06 passed,T07 passed
04	Capitalization(upper, lower, title) for words	T08	T08 passed
05	Recent activity	T09, T10	T09 passed, T10 passed
06	Syntax highlighting	T11	T11 passed
07	Bookmarking ability for the current open files	T12, T13,T14	T12 passed,T13 passed,T14 passed
08	Theme	T15	T15 passed
09	Difference between text files	T16	T16 passed
10	Spell checking	T17,T18	T17 failed, T18 failed
11	Dictionary	T19, T20	T19 passed, T20 failed

Tools

Languages

We used Java programming language in this project.

IDE

An integrated development environment (IDE) is a software suit that consolidates basic tools required to write and test software. There are many IDE's like Visual Studio, NetBeans, Eclipse etc.

From those we used Eclipse IDE for this project.

Future Directions

In this desktop application, we add a limited collection of words for dictionary. But in future we will try to add the full dictionary. Also we have a little collection of words for checking spell. And we will cover more programming language syntax for highlighting. Currently we used light theme but our future target is to use dark theme along with light.

Software Project Metrics

Line of Code (LOC)

Lines of Code (LOC) is a metric generally used to evaluate a software program or codebase according to its size.

Non-Comment Line of Codes (NCLOC)

It is used to determine the amount of non-commented source lines of codes.

Count Line of Codes (CLOC)

Count Line of Code allow you to count all number of your code and exclude comments.

Density of Comments

This metric represents the percentage of commented line.

Code Level

Table 04: Code Level

Line of code	2,900
Non comment Line of codes	100
Count Line of Codes	3000
Density of Comments	2
Average LOC in class	150

Design Level

Name of package iX

Name of sub-packages Listener, TextEditor, SpellCheck, Utilities, Widgets.

Table 05: Design Level

Package	1
Sub-packages	5
Interfaces	0
Abstract Class	0
Class of public attributes	0
Static variable of methods	0
Number of class	18
Methods per class	5

Collaborations

Collaboration is a working practice whereby individuals work together to a common purpose to achieve business benefit. Project collaboration software can help your group members to collaborate effectively on project tasks.

LOC addition & deletion of each team members

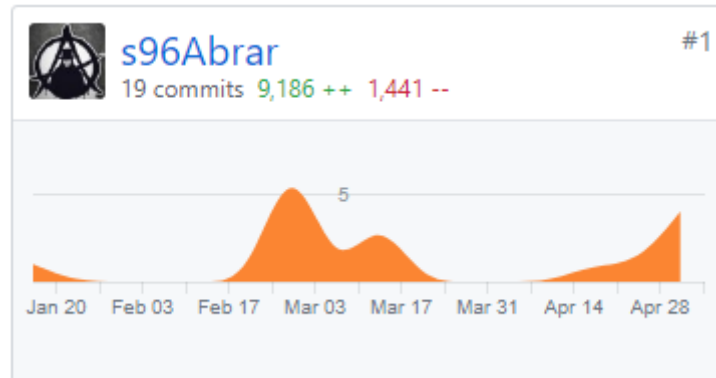


Figure-1: Abrar's contribution

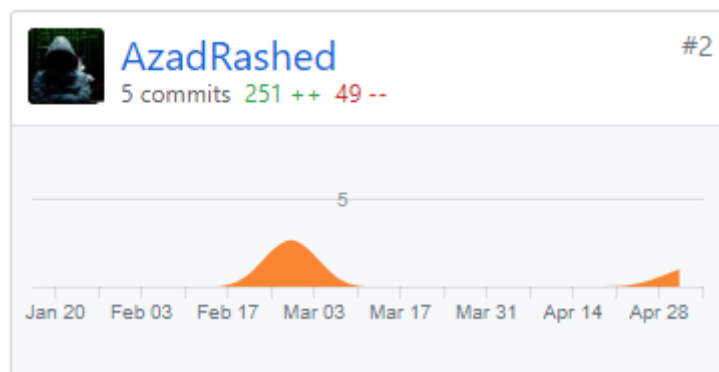


Figure-2: Azad's contribution



Figure-3: Saima Nawal's contribution

Software Project Deliverables

1. Source code
2. Soft copy of user manual
3. Project report
4. Power point presentation

Summary

In traditional Windows built in notepad, user can read/write text files. But there is no spell checker and syntax highlighting functionality. Also, in traditional notepad, to open several text files, several windows opened. Though to alleviate these issues, Notepad++ have been created to give user friendly environment to the user. But we want to present more user-friendly text editor to the user. To serve this purpose, we have provided bookmarking, dictionary, recent activity, multiple tabs and syntax highlighting functionality in our iXPAD.

References

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