A Project Report

on

WATCHER

*Submitted in partial fulfillment of the
requirement for the award of the degree of*

B.Tech C.S.E

(Established under Galgotias University Uttar Pradesh Act No. 14 of 2011)

**Under The Supervision of
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INDIA
DECEMBER, 2021**

SCHOOL OF COMPUTING SCIENCE AND ENGINEERING
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CANDIDATE'S DECLARATION

I/We hereby certify that the work which is being presented in the project, entitled **"WATCHER"** in partial fulfillment of the requirements for the award of the Bachelor of Technology in Computer Science and Engineering in Computer Science and Engineering submitted in the School of Computing Science and Engineering of Galgotias University, Greater Noida, is an original work carried out during the period of July,2021 to December and 2021, under the supervision of Dr.S.Srinivasan.(Professor), Department of Computer Science and Engineering, of School of Computing Science and Engineering , Galgotias University, Greater Noida

The matter presented in the thesis/project/dissertation has not been submitted by me/us for the award of any other degree of this or any other places.

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This is to certify that the above statement made by the candidates is correct to the best of my knowledge.

Supervisor Name

Designation

CERTIFICATE

The Final Project Viva-Voce examination of Avi Srivastwa,18SCSE1010018 and Nandika Singh,18SCSE1010587 has been held on 20-12-2021 and his/her work is recommended for the award of Bachelor of Technology in Computer Science and Engineering in Computer Science and Engineering respectively

Signature of Examiner(s)   **Signature of Supervisor(s)**

Signature of Project Coordinator   **Signature of Dean**

Date: December, 2021

Place: Greater Noida

Abstract

Internet is overflowing with information on anything you need. But when you go online you stand on a thin ridge with task at hand on one side and time chewing activities on the other. Some way the gravity is all the more remarkable over on the opposite side It's easy to get pulled into aimless scrolling on Facebook or twitter or watching cat videos. The original idea suggests showing amount of time spent on certain sites on that day, month and the year. So that people can control this habit. It holds more of a cosmetic value than working towards helping us in achieving the goal. So we are going to make Chrome Extension for this so that user with the single click can see his/her amount of usage or time spent on certain sites on that day. We will also try to predict the time that the person will spend on accessing those sites in future using Machine learning & Algorithms. As a youth we have faced this issue earlier a lot- spending unusual or unproductive time on internet which led to time waste like browsing on some social site then remaining on it for long hours also it affect to our brain and eyes too also due to which there are many things that are delayed. So we thought to make something which remind us and keep us aware of time usage on internet on particular site.Also, developing Chrome extension is unique idea as rarely people choose to make project on this. So this was the reason we have choose this project in chrome extension "WATCHER".

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Acronyms

B.Tech.	Bachelor of Technology
M.Tech.	Master of Technology
BCA	Bachelor of Computer Applications
MCA	Master of Computer Applications
B.Sc. (CS)	Bachelor of Science in Computer Science
M.Sc. (CS)	Master of Science in Computer Science
SCSE	School of Computing Science and Engineering

CHAPTER-1

Introduction

Over the last couple of decades the internet has changed how we work, how we shop, how we communicate, and how we burn-through media. In most regards it has made life quicker and easier, but it has also brought challenges and after-effects. Innovation might have simplified many errands, yet it has additionally expanded interruptions and shepherded in more ways to procrastinate.You've most likely seen that while you can finish numerous things quicker than at any other time, you invest a lot of energy doing nothing of worth. In any case, it's not simply sites that are an interruption. Research observed that only 14% of emails are significant to work, and 62 percent of individuals observed that managing superfluous messages was one of the drawbacks of using email as a means of communication.There's a lot that you can do on the internet, so it's very easy for you to find yourself wasting too much time online. Web addiction is an undeniable and developing issue, yet even other than netizens can invest an excess of energy riding the web and insufficient time in RL (reality).

 So our project is based on to help people controlling their time on internet browsing and surfing. So that they can use maximum time on internet productive and utilizing for good and control their habit of wasting long time on particular website.We will be using HTML, CSS JAVASCRIPT for this project and Bootstrap for the front end part.

Technology Used:

HTML: Hypertext Markup Language, the basic function is creating web pages. The goal of the web browser is to read the documents as web-pages; and it is also possible to include scripts written in several languages, such as JavaScript, which an impact on the behavior of web pages [1]

CSS: Cascading Style Sheet, is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the

World Wide Web, alongside HTML and JavaScript. Using this we have decorate this web-pages with awesome colors tables and bars.[2]

JavaScript: A programming language developed for the design of interactive sites and creating web applications. JavaScript can interact effectively with HTML source code, enabling web authors access to their sites with dynamic content.[3]

ReactJS: (also known as React.js or ReactJS) is a free and open-source front-end JavaScript library for building user interfaces based on UI components. It is maintained by Meta (formerly Facebook) and a community of individual developers and companies. React can be used as a base in the development of singlepage or mobile applications. However, react is only concerned with state management and rendering that state to the DOM, so creating React applications usually requires the use of additional libraries for routing, as well as certain client-side functionality.[4]

Bootstrap: is a free and open-source CSS framework directed at responsive, mobile-first and frontend web development. It contains CSS- and (optionally) JavaScript based design templates for typography, forms, buttons, navigation, and other interface components. Bootstrap is the seventh-most starred project on GitHub, with more than 142,000 stars, behind free-code-camp (almost 312,000 stars) and marginally behind Vue.js framework. Programs used to implement ingredients to recipe are as follows [5]

Visual Studio Code (VS code): is a free source code editor made by Microsoft for Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git. Users can change the theme, keyboard shortcuts, preferences, and install extensions that add additional functionality.[6]

Google Chrome: Google Chrome is a cross-platform web browser developed by Google. It was first released in 2008 for Microsoft Windows, and was later ported to Linux, macOS, iOS, and Android where it is the default browser built into the OS. The browser is also the main component of Chrome OS, where it serves as the platform for web applications.[7]

It is a small program to modify the experience or add functionality to the chrome browser. They are created using web technology like HTML, CSS, JavaScript, etc.

The main aim of an extension is to serve a single purpose around which the whole program is built, although it can have multiple components but they should help in accomplishing the main purpose of the program.

An extension should have the minimal interface or it can extend to a web page also but main focus is to provide good functionality with less overhead.

Extension are zipped into a in **.crx** package, the user needs to download the package and install it. Chrome extension is published in the Chrome web store.

Some example of chrome extension is:

- Web timer
- Password manager
- Ads blocker
- Adding to-do lists or notes to Chrome
- Making it easier to copy text from a site

A simple extension just to demonstrate the working procedure

Every extension require a manifest file

First, create a **manifest.json** file

```
{
    "name": "Hello Extensions",
    "description" : "Base Level Extension",
    "version": "1.0",
```

```
    "manifest_version": 2

●      }
```

Then, for demonstration we will add an icon to the extension which will on being clicked open a web page created by us. Add this inside the file

```
"browser_action": {

    "default_popup": "hello.html",

    "default_icon": "icon.png"

  }
```

- Then add this to include a shortcut to display the HTML page
```
    "commands": {


    "_execute_browser_action": {

      "suggested_key": {

        "default": "Ctrl+Shift+F"

      },

      "description": "Opens hello.html"

    }

}
```

CHAPTER 2

LITERATURE SURVEY

According to Human-Computer Interaction, Intelligent Multimodal Interaction Environments Lecture Notes in Computer Science Volume 4552, 2007, pp 918-925 Overall, the use of the service via the mobile phone provides a quite good alternative for the PC." According to Jakob Nielsen a Web usability consultant of Denmark there are five attributesof usability of mobile applications:

1. Eficiency: Resources expended in relation to the accuracy and completeness with which users achieve goals;

Satisfaction: Freedom from discomfort, and positive attitudes towards the use of the product.

Learnability: The system should be easy to learn so that the user can rapidly startgetting work done with the system;

4. Memorability: The system should be easy to remember so that the casual user is able to return to the system after some period of not having used it without having to learn everything all over again;

5. Errors: The system should have a low error rate, so that users make few errors during the use of the system and that if they do make errors they can easily recover from them. Further, catastrophie errors must not occur. Christina Warren, a Mashable's Senior Tech Analyst says, over the last few years, in-app purchases have become an increasingly common way for mobile app developers to enhance their mobile products and services.

2.1. Pew Internet & American Life Project

1. Most Internet users and tech experts think cash and credit cards will become things of the past in the next decade as people turn to their mobile phones to make payments.

2. Nearly two out of three respondents to the survey (65%) told the Pew Internet & American Life Project that they think most people will have fully adopted the "mobile wallet" as their day-to-day means of paying by 2020.

3. In a December report from comScore, 38%% of smartphone owners had used their phones to make a purchase of some kind.

4. "By 2020, most people will have embraced and fully adopted the use of smart-device swiping for purchases they make, nearly eliminating the need for cash or credit cards. People will come to trust and rely on personal hardware and software for handling monetary transactions over the Internet and in stores. Cash and credit cards will have mostly disappeared from many of the transactions that occur in advanced countries.

5. Pew's report said those who think mobile payments will dominate in the coming years frequently said the boom in smartphone ownershipP, convenience and security are key factors that make "these systems an obvious choice to replace established modes off payment in day-to-day commerce.

2.2 Leena Rao, Managing Editor ofTecherunch Says:

- Smartphone shoppers were also more likely to be younger than their desktop counterparts with 70.7 per Among the majority of the selected retailers, comScore reports that the iPhone had a higher penetration compared to Android, while in most cases Android devices delivered a larger audicence due to the platform's higher overall market penetration of smartphone retail visitors under the age of 45 compared to 61.1 percent of desktop users.

- Engagement among these audiences showed even greater dispanty with visitorsunder the age of 45 accounting for nearly 3 in every 4 minutes spent on retail content via smartphones, compared to 61.6 percent of retail minutes on desktop computers.

- Among smartphone audiences accessing retail destinations, nearly I in every 3 had a household income of $100,000 or greater, with this income segment driving a comparable 31.2 percent of minutes spent on retail sites and apps.

- Among both iPhone and Android users, Amazon ranked as the top retailer with a reach of 43 percent among iPhone users and 55 percent among Android users, with visitation to the Amazon Appstore largely accounting for the higher reach among Android useS.

- Among the majority of the selected retailers, comScore reports that the iPhone had a higher penetration compared to Android, while in most cases Android devices delivered a larger audience due to the platform's higher overall market penetration.

British Banker's Association, March 2014: In the UK 12.4million banking apps have been downloaded, which are used on average 18.6million times per week. AppNation, July 2013: Estimates suggest the combined value of paid apps, app-enabled purchases of goods and services and in app advertising will double to $151 billion in the US by 2017.

Pew Internet, September 2013: 74% of US adult smartphone owners aged 18+ say that they use their phone to get directions or other information based on their current location.

Pew Internet, August 2013: Fifty-one percent of US adults, or 6l percent of internet users, bank online. Thirty-two percent of US adults or 35% of cell phone owners, bank using their mobile phone apps.

Joy Liuzzo, president, Wave Collapse says:

1. Over 1000 smartphone users, 93% of people who use apps in stores had bought something at a physical location in the last week, compared to 84% of non-users of shopping apps who made a retail purchase. But these same people are also the most active buyers of products across the Web, smartphones and tablets, while people who don't use apps in a store generally are focusing most of their buying at physical locations anyway.

2. Shopping app users are also more likely to purchase on devices, although this group simply is more likely to make purchases on all digital and physical venues. But the in-store app users are the ones who are most likely to move from browsing to actively buying in the digital realm. They actually like using mobile and tablet devices to shop, says Liuzzo. "They really like what they are doing."

3. Shopping app users actually already know how to shop and are not necessarily looking Tor convenience tools. Among those who don t use apps n-store they expressed interest in comparisons as well, but they were also focused on convenience features like bill-paying, store aisle maps and shopping lists.

Nielson says, The usage of mobile phone apps identifies 3 factors that should be considered when evaluating usability.

1. User: Person who interacts with the product.

2. Goal: Intended outcome.

3. Context of use: Users, tasks, equipment (hardware, software and materials), and the physical and social environments in which a product is used.

Limitations of the Study

1. An in depth study might not be done because of time constraint5.

2. Biased information was given from respondents

2.3. Books

Websites have become the major source of information, and analysis for web usage has become the most important way of investigating a user's behaviour and obtaining information for website owners to use to make any strategic decisions. This chapter sheds light on the concept of web usage mining, techniques, and its application in various domains. INTRODUCTION World Wide Web has become the most popular platform for people. More than millions of users are interacting daily with the websites and visiting large numbers of websites, leaving behind a variety of information. Due to its various attractive and beneficial services web is getting more popular day by day. Now, No one is untouched with magic of World Wide Web service of internet technology. Website proves to be a popular means for information circulation among to the world. Today, almost every organization provides services and significant information to the targeted person through their websites. Such as resource sharing, online shopping using e-commerce, online banking, e-learning, e-banking, online news broadcast, online rail ticket reservation, hotel's room booking and many more. Due to cloud computing and other supporting services, the World Wide Web is getting ubiquitous and a usual instrument for day to day life's activities of common man. Because of unprecedented and exponential growth in popularity of web, there have been great efforts by the researchers in development of techniques to deal with the web data. Initially, the data mining techniques were being used to retrieve, search and organize the information over the web. There was no distinct term for the area of web. It was Etzioni (Etzioni, 1996) who first coined the term web mining in his paper. Since, then this area of research is studied under this term "Web mining" (Zdravko, M. & Daniel, T.L., 2007)

CHAPTER-3
EXISTING SYSTEM

In existing system there is tracking of location can be done of user by using Bluetooth functions i.e. the location will be tracked within a specified range and alert will be send to the administrator"s mobile device through Bluetooth.

Mobile activity such as missed call, incoming and outgoing call, incoming and outgoing SMS with content is not easily tracked of number of user at a time in existing system. There are a number of tools and systems specialised to tracking website visitor behaviour. Use software with online traffic tracking and web analytics features to get the most out of your website activity tracking efforts.

There are several existing system extensions and software on the market and in the Chrome Web Store, but they are well compensated for their services.

There are a lot of pop-up adverts in this so they can make money. They don't have sufficient user interface and platform to display users' data so that they can quickly access it and evaluate it so that they may reduce their hackneyed of web browsing such as social media usage and online viewing on platforms such as Netflix and YouTube.

3.1 Drawbacks of the Existing System

- More complexity to execute
- Bluetooth has no scope as the Wi-Fi and hotspot
- concept taking place of it
- It is less efficient
- Installing app on existing system is very hard process
- Through Bluetooth functions we can track oneuser at one time.
- Security can easily break.
- Limited to short distance

CHAPTER - 4
PROPOSED SYSTEM

The scope of this study is to examine and understand Internet normal use though desktop and Laptops.

1) To identify the level of web use;

2) To find out the use of web use for various purposes;

3) To find out the use of the Internet through Web

Track and limit time your activity in the browser every day.
Control how much time you spend on websites and set a time limit on websites if you procrastinate. Time tracking at its best.

Web Activity Time Tracker is open-source project and it keeps track of how much time you spend on the web and presents the stats in a useful and intuitive way. You can set a daily visit limit for sites and block it after the expiration of the limit.

You will see:
- Total time spent browsing
- Total time spent browsing by days
- Time spent on individual websites
- Total time and percentage on chart

- Statictics:
- Today overview
- All-time stats
- By all days stats

- Customizable features:
- Idle time interval
- Time tracker in icon
- Add domain to black list, activity for these domains not will tracked
- Set dayly time limit for the site
- Track activity when you watch the video on YouTube and Nexflix (need grant permission)
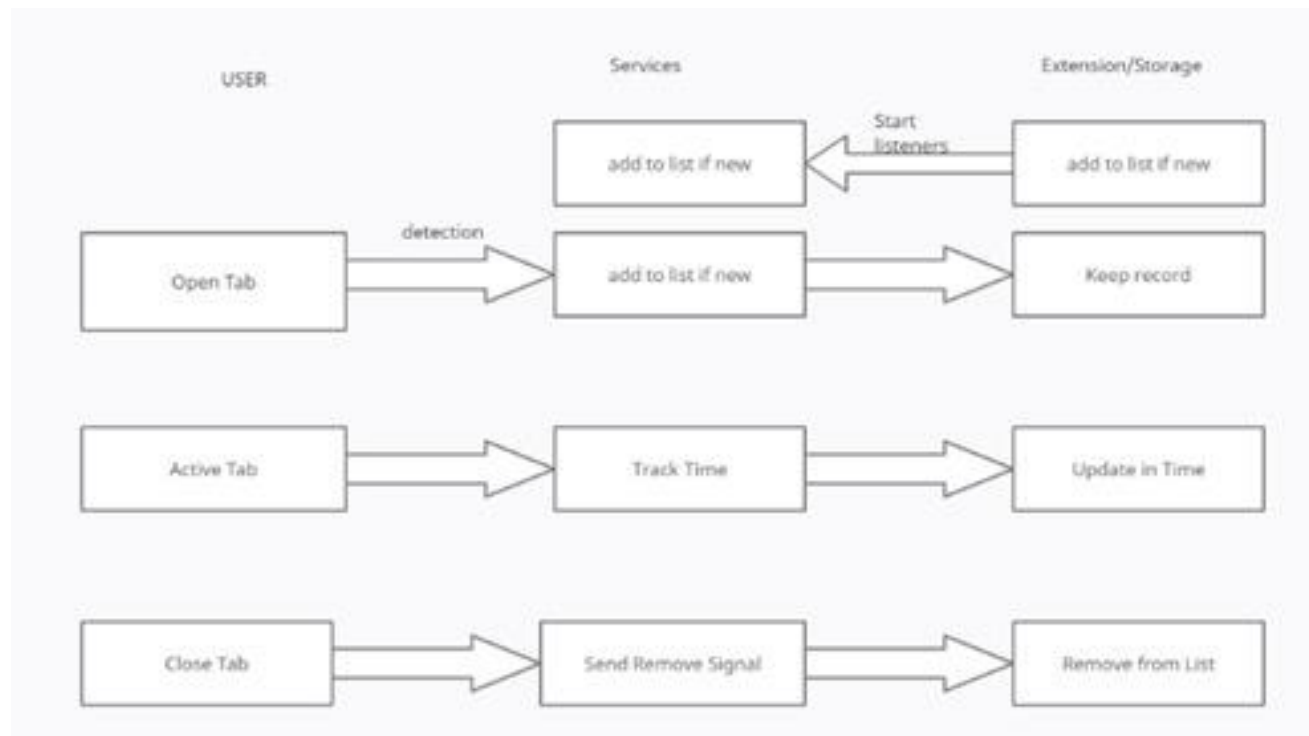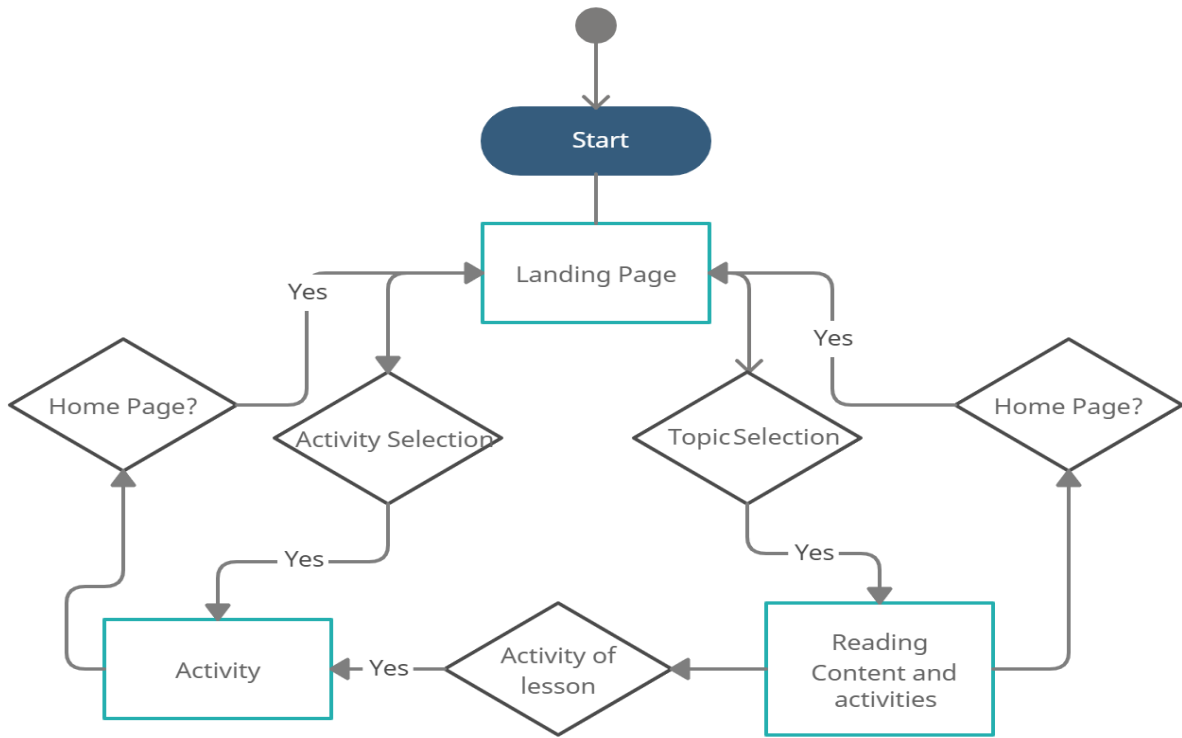

Flow Diagram
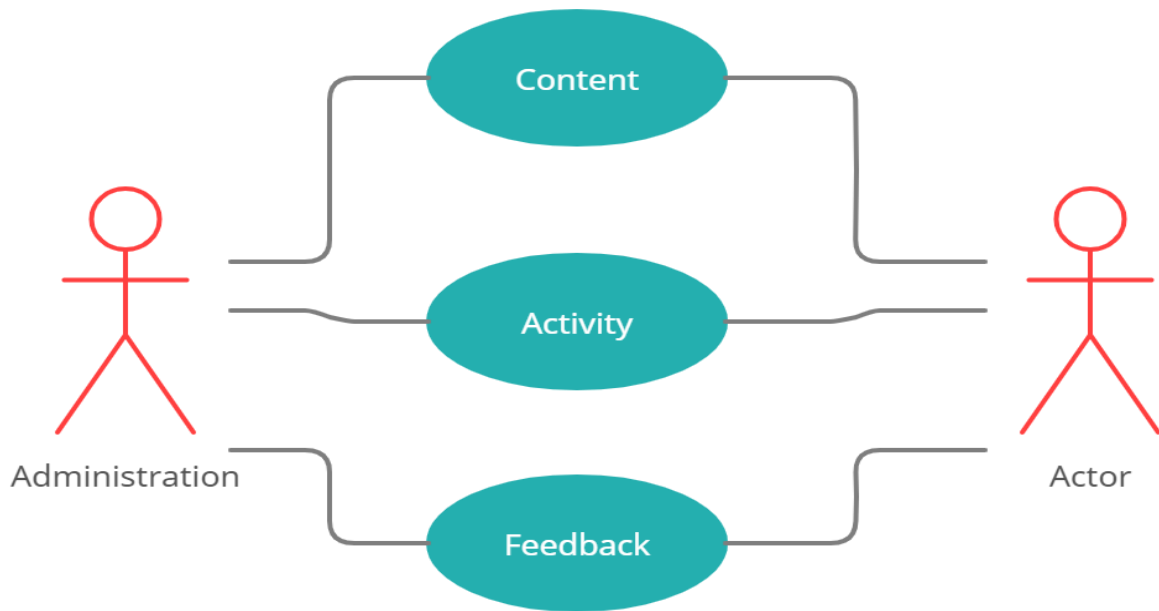
**Fig 1: ArchitecturalDiagram of System**

Fig 1: ArchitecturalDiagram of SystemII

This extension will have only one actor i.e., user and it will require no authentication at this stage. User: can see the dashboard in which they can easily select the lesson and activity they can also give feedback and report any bug to developer. And Administrator is basically a developer who can add the content for now but in future enhancements we will make it open source so that developer and learner from everywhere can include their work and we will also include authentication for the same.

EXTENSION LAYOUT AND DESIGN:
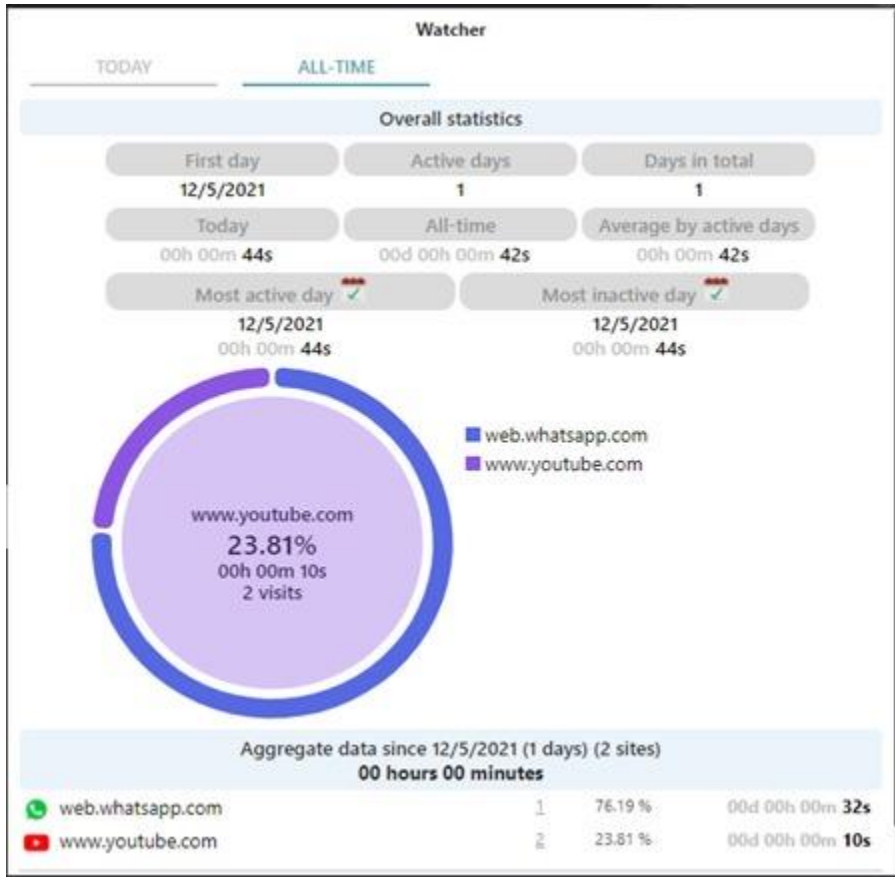
Mental Health: The Impact of Social Media on Young People
Ranking of social media platforms according to impact on youth mental health
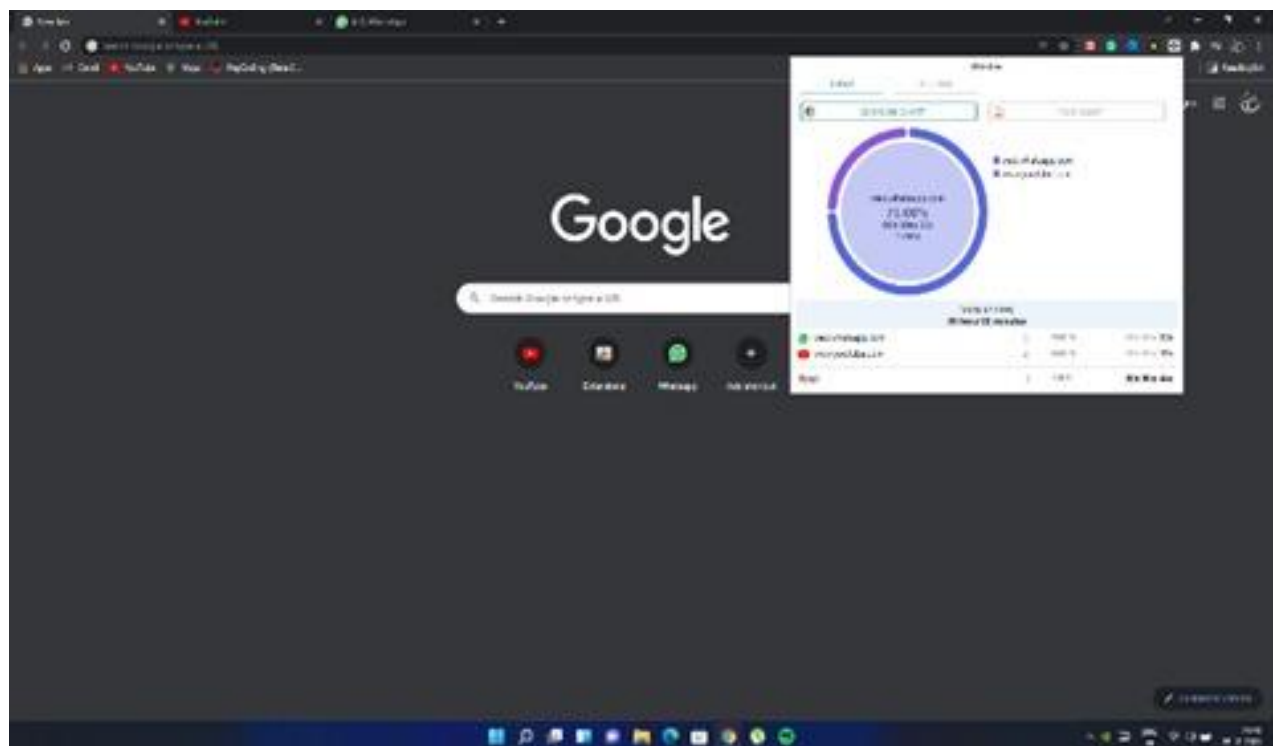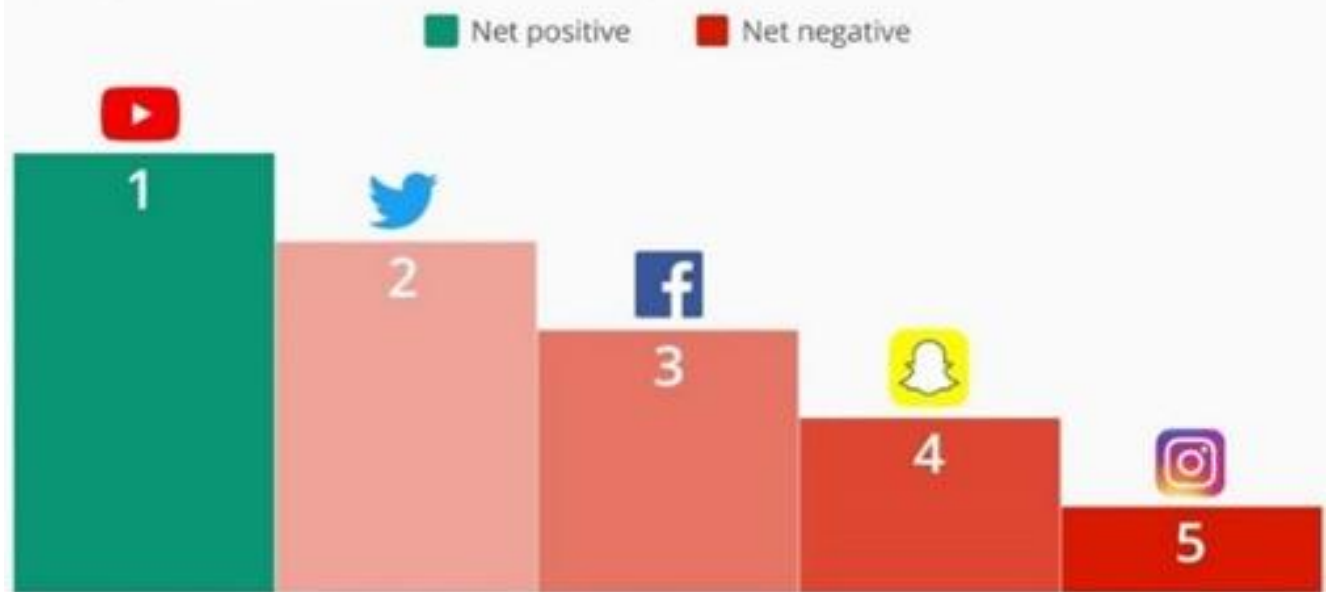
CHAPTER- 5
Module Description

A module description provides detailed information about the module and its supported components, which is accessible in different manners. The included description is available by reading directly, by generating a short html-description, or by making an environment check for supported components to check if all needed types and services are available in the environment where they will be used. This environment check could take place during registration/installation or during a separate consistency check for a component.

4.1 MODULE DESCRIPTION TABLE

Author	Avi Srivastwa , Nandika Singh
name	Watcher
description	We will make all things available on a single website having information, resources, and interactive activities related to Quantum Computing which will help in learning and understanding quantum computing concepts in easy way. This will eventually make life easier and enhance learning enthusiasm of learners
loader-name	Webpack 5
supported-service	Web Application on browser >0.2% market share and last 2 version of any browser and not dead state.
service-dependency	Hosting it on Cloud Services like AWS, GCP
project-build-dependency	React Scripts: react scripts build; npm run build

runtime-module-dependency	"@testing-library/jest-dom": "^5.15.1", "@testing-library/react": "^11.2.7", "@testing-library/user-event": "^12.8.3", "assert": "^1.4.1", "bootstrap": "^5.1.3", "classnames": "^2.2.5", "prop-types": "^15.5.10", "react": "^17.0.2", "react-bootstrap": "^2.0.3", "react-dom": "^17.0.2", "react-router-dom": "^6.0.2", "react-scripts": "4.0.3", "web-vitals": "^1.1.2"
language	HTML, CSS, JavaScript
Status	Alpha, Beta Under Construction
Type	Web Application ReactJS

Table 1. Table of Module

5.2 Development Stage Module Descriptions

For every developmental stage, there is an expected developmental task. What happens when the expected developmental tasks are not achieved at the corresponding developmental stage? How can you help children achieve this developmental task?

How the proposed system looks like and will be defined and prepared from the requirement specifications that were analyzed and constructed.

Here Development means Web development technologies which refer to the multitude of programming languages and tools that are used to produce dynamic and fully-featured websites and applications.

It can be further divided into two parts such as Frontend Development and Back-End Development in this report we will further discuss these in brief:

Front-end (client-side) technologies.

Front-end technologies are for the "client side" of your website or application. They're used to develop the interactive components of your website, and produce the elements that users see and interact with. This includes text colors and styles, images, buttons, and navigation menus.

Back-end (server-side) technologies.

Back-end technologies are for the "server side" of your website or application. They're for developing the technical foundation. They store and arrange data and make sure everything on the front-end works. For example, when a user provides login credentials to a social media application, back-end technologies are used to check if those credentials are accurate. Once the credentials are verified, the server will send back the profile name, picture, and other associated information.

Back-end technologies are also used to streamline core business processes. In cases where you

have lots of data that needs to be processed, you could run a script in the back-end to generate a meaningful report on the front-end. You can also send automatic emails to groups of users. Emails can be triggered by certain dates, such as the expiration of a user's free website trial.

We will further describe the use of these technologies in this report.

Frontend Development Technologies

1. **Dashboard:**

We design our Website Dashboards to be as easy to use as possible. In fact, if you are able to use email and any popular desktop publishing software, we are confident you will have no problem whatsoever using it. There is absolutely no need to know any code to be able to use your Website Dashboard and edit website content. And, if you do ever experience any difficulties and the built-in documentation does not help you can simply get in touch with us for free support.

Custom-Made & Easily Extended Because we build every website from scratch, your Website Dashboard will be tailor-made with only the features you need. And if you want us to add more features to your website in the future, your Dashboard will simply be upgraded to reflect this.

Like in the Fig. 4 below this is the landing page of the website i.e., dashboard which appears when any user opens the website. From here they can visit and redirected to different links and can do many things such as feedbacks.
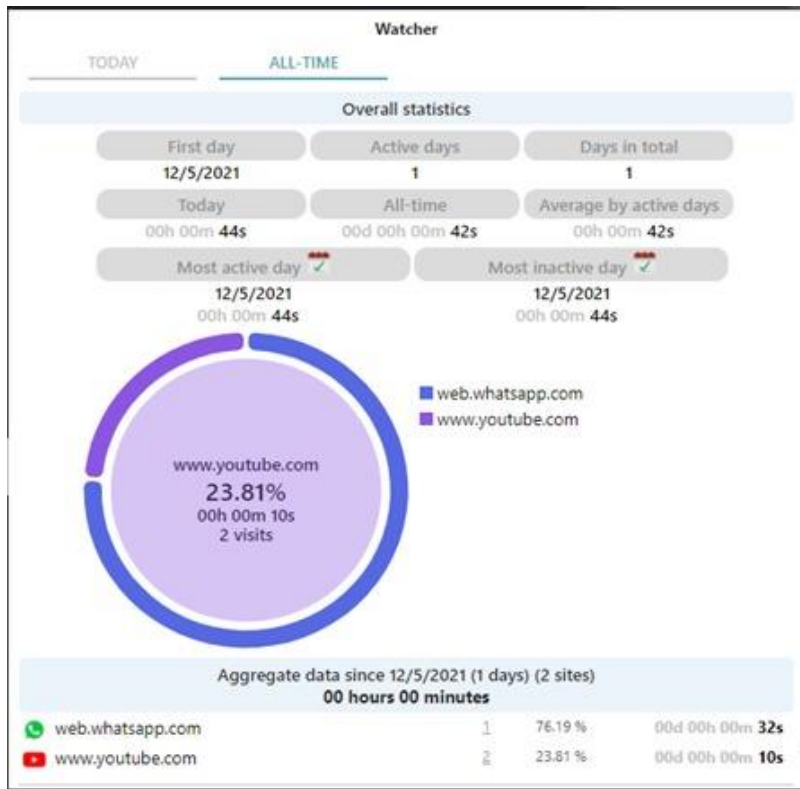
1. Extension Exploration

On a website, a navigation menu is an organized list of links to other web pages, usually internal pages. Navigation menus appear most commonly in page headers or sidebars across a website, allowing visitors to quickly access the most useful pages.

Horizontal Navigation Bar

The horizontal navigation bar is the most common type of navigation menu. It lists the major pages side-by-side and is placed in the website header. Many websites feature the same sections, like "About," "Products," "Pricing," and "Contact," because visitors expect to see them. But these sections won't necessarily be the most helpful to visitors on all sites.

The sections featured include three content categories — "News," "Op-Eds," and "Lifestyle" — as well as links to a submission page and a sign-up page. These are more likely to provide visitors with easy access to the pages they're looking for rather than the standard About, Pricing, and Contact pages.

Dropdown Navigation Menu

Dropdown navigation menus are ideal for content-rich sites with a complex IA. If you'd like to include a lot of links to pages in your navigation bar, you can't list them all side-by-side — it would either look cluttered or be impossible to fit them all horizontally. Instead, list the most important or general items in the top-level navigation bar and include the rest in a dropdown menu.

Hamburger Navigation Menu

The hamburger menu is most often seen in mobile web design. With this approach, the navigation items are often listed horizontally on larger screen sizes and collapse behind a hamburger button on smaller screen sizes. When visitors click on this three-line icon, a vertical drop-down or horizontal pop-out appears with the navigation links. This type of design is ideal for mobile apps or sites where real estate is limited

Vertical Sidebar Navigation Menu

With this menu type, the items are stacked on top of each other and positioned in the sidebar. While less popular than horizontal navigation, vertical navigation does offer several benefits. Since real estate isn't as limited, you can write longer navigation links and include more top-level options. It's also more eye-catching, which makes this style work well for agencies and other creative businesses.

Footer Navigation Menu

A footer menu is typically paired with — and expands upon — a horizontal navigation bar. If a visitor doesn't find the link they're looking for in the header, they can scroll down to the bottom of the page for more options.

Algorithm of the System:

Step 1: Start: With the start of the website show the Landing Page to the User Fig 4. where he can choose the lesson, activity or can give feedback or bug report.

Step 2: Making Choice of Veiwing Usage: After choosing the lesson the user will be redirected to the lesson content page of that corresponding lesson which can be visualize by Fig 8. And in the bottom of the page, he can go to the Major Activity of that corresponding lesson.

Step 3: Choosing Activity: User can also choose the activity of his choice from landing page as demonstrated in Fig 7. And then user will be redirected to the activity page their choice.

Step 4: Interaction with Activity: When user will be redirected to the Activity page there they can interact with the activity and get to know the and understand the concept associated with that. And interactive activities will make their learning enthusiasm alive.

CHAPTER – 6
USAGE INSTRUCTION

Install and manage extensions

You can customize Chrome on your desktop by adding extensions from the Chrome Web Store.

Install an extension

Important: You can't add extensions when you browse in Incognito mode or as a guest.

1. Open the Chrome Web Store.
2. Find and select the extension you want.
3. Click Add to Chrome.
4. Some extensions will let you know if they need certain permissions or data. To approve, click Add extension.

   Important: Make sure you only approve extensions that you trust.

To use the extension, click the icon to the right of the address bar.

If you're using a computer through your work or school, your organization might block some extensions.

Manage your extensions

1. On your computer, open Chrome.
2. At the top right, click More ⋮ ＞ More tools ＞ Extensions.
3. Make your changes:

   Turn on/off: Turn the extension on or off.

   Allow incognito: On the extension, click Details. Turn on Allow in incognito.

   Fix corruptions: Find a corrupted extension and click Repair. Confirm by clicking Repair extension.

   Allow site access: On the extension, click Details. Next to "Allow this extension to read and change all your data on websites you visit," change the extension's site access to On click, On specific sites, or On all sites.

Let extensions read and change site data

Some extensions need permission to read and change site data. You can change your extensions' permissions anytime.

1. On your computer, open Chrome .
2. At the top right, click Extensions 🧩.
3. Click More ⋮ ❯ point to "This can read and change site data."
4. Decide which permission to give the extension:
   When you click the extension: This setting only allows the extension to access the current site in the open tab or window when you click the extension. If you close the tab or window, you'll have to click the extension to turn it on again.
   On [current site]: Allow the extension to automatically read and change data on the current site.
   On all sites: Allow the extension to automatically read and change data on all sites.

Add or remove access to a specific site

1. On your computer, open Chrome.
2. At the top right, click More ⋮ ❯ More tools ❯ Extensions.
3. On the extension, click Details.
4. Under "Permissions," add or remove a site:
   Add: To the right of "Allowed sites," click Add.
   If you don't see this option, change "Allow this extension to read and change all your data on websites you visit" to On specific sites.
   Remove: To the right of the site, tap More ⋮ ❯ Remove.

Uninstall an extension

To the right of your address bar, look for the extension's icon. Right-click the icon and select Remove from Chrome.

If you don't see the extension's icon:

1. On your computer, open Chrome.
2. At the top right, click More ⋮ ❯ More tools ❯ Extensions.
3. On to the extension you want to remove, click Remove.
4. Confirm by clicking Remove.

CHAPTER – 7
SYSTEM REQUIREMENTS

7.1 VISUAL STUDIO CODE

Visual Studio Code combines the simplicity of a source code editor with powerful developer tooling, like IntelliSense code completion and debugging.

First and foremost, it is an editor that gets out of your way. The delightfully frictionless edit-build-debug cycle means less time fiddling with your environment, and more time executing on your ideas.

FIG 17: VSCODE IDE

Screenshot 1 — block.html in Visual Studio Code:

```html
<!DOCTYPE html>
<html>

<head>
    <meta charset="utf-8">
    <title>Access to the site is limited</title>
    <link href="style/block.css" rel="stylesheet" />
    <script src="scripts/storage.js"></script>
    <script src="scripts/common.js"></script>
    <script src="scripts/block.js"></script>
    <script src="scripts/restriction.js"></script>
    <script src="scripts/url.js"></script>
</head>

<body>
    <div>
        <img src="icons/time.svg" height="50">
        <p class="title">Time limit</p>
        <div class="description">You've reached your limit today on <span id="site" class="current-site"></span></div>
        <div class="description margin-top-10">Your current daily limit is <span id="limit" class="current-limit"></span></div>

        <div class="margin-top-10"><a id="defferer8tn" class="defferer-link">Set aside for 5 minutes</a></div>
    </div>
    <p class="product-title">Web Activity Time Tracker</p>
</body>

</html>
```
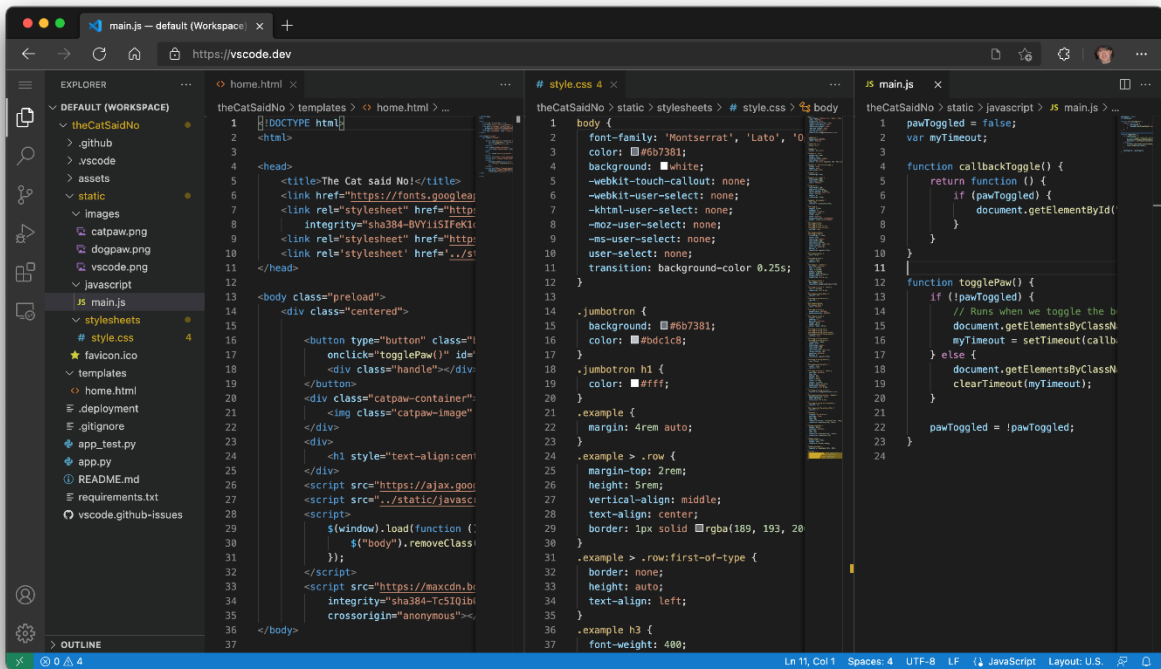

Screenshot 2 — manifest.json in Visual Studio Code:

```json
{
    "manifest_version": 2,

    "name": "Watcher",
    "short_name": "Watcher",
    "version": "1.0.0",
    "minimum_chrome_version": "26",

    "description": "Track and limit time your activity in the browser every day.",

    "options_page": "options.html",

    "icons": {
        "16": "icons/16x16.png",
        "32": "icons/32x32.png",
        "48": "icons/48x48.png",
        "128": "icons/128x128.png"
    },
    "permissions": [
        "tabs",
        "activeTab",
        "storage",
        "idle",
        "chrome://favicon/*",
        "webNavigation",
        "unlimitedStorage"
    ],
    "optional_permissions": [
        "https://www.youtube.com/*",
        "https://www.netflix.com/*",
        "notifications"
    ],
    "offline_enabled": true,
    "background": {
        "scripts": ["scripts/common.js",
                    "scripts/storage.js",
                    "scripts/activity.js",
                    "scripts/tab.js",
                    "scripts/timeInterval.js",
                    "scripts/background.js",
                    "scripts/restriction.js",
                    "scripts/url.js"],
        "persistent": false
    },
    "browser_action": {
        "default_popup": "index.html",
        "default_title": "Watcher",
        "default_icon": "icons/48x48.png"
    }
```

Screenshot 1 — tab.js:

```javascript
'use strict';

class Tab {
    constructor(url, favicon, days, summary, counter) {
        this.url = new Url(url);
        this.favicon = favicon;
        if (summary !== undefined)
            this.summaryTime = summary;
        else
            this.summaryTime = 0;
        if (counter !== undefined)
            this.counter = counter;
        else
            this.counter = 0;
        if (days !== undefined)
            this.days = days;
        else
            this.days = [];
    }

    incSummaryTime() {
        this.summaryTime += 1;
        var day = this.days.find(x => x.date == todayLocalDate());
        if (day === undefined) {
            this.addNewDay(todayLocalDate());
        }
        else {
            day['summary'] += 1;
        }
    }

    getTodayTime(){
        return this.days.find(x => x.date == todayLocalDate()).summary;
    }

    incCounter(){
        this.counter +=1;
        var day = this.days.find(x => x.date == todayLocalDate());
        if (day === undefined) {
            this.addNewDay(todayLocalDate());
        }
        else {
            day['counter'] += 1;
        }
    }

    addNewDay(today) {
        this.days.push(
```


Screenshot 2 — common.js:

```javascript
var RangeForDays = {
    days2: 'days2',
    days3: 'days3',
    days4: 'days4',
    days5: 'days5',
    days6: 'days6',
    days7: 'days7',
    month1: 'month1',
    month2: 'month2',
    month3: 'month3'
};

var InactivityInterval = {
    second30: 30,
    second45: 45,
    min1: 60,
    min2: 120,
    min5: 300,
    min10: 600,
    min20: 1200,
    min30: 1800
};

var TypeListEnum = {
    ToDay: 1,
    All: 2,
    ByDays: 3,
};

var STORAGE_TABS = 'tabs';
var STORAGE_BLACK_LIST = 'black_list';
var STORAGE_RESTRICTION_LIST = 'restriction_list';
var STORAGE_NOTIFICATION_LIST = 'notification_list';
var STORAGE_NOTIFICATION_MESSAGE = 'notification_message';
var STORAGE_TIMEINTERVAL_LIST = 'time_interval';

var DEFERRED_TIMEOUT = 300000;

var SETTINGS_INTERVAL_INACTIVITY_DEFAULT = InactivityInterval.second30;
var SETTINGS_INTERVAL_CHECK_DEFAULT = 1000;
var SETTINGS_INTERVAL_SAVE_STORAGE_DEFAULT = 5000;
var SETTINGS_INTERVAL_RANGE_DEFAULT = RangeForDays.days7;
var SETTINGS_VIEW_TIME_IN_BADGE_DEFAULT = true;
var SETTINGS_BLOCK_DEFERRAL_DEFAULT = true;
var SETTINGS_DARK_MODE_DEFAULT = false;
var SETTINGS_SHOW_HINT_DEFAULT = true;
var STORAGE_NOTIFICATION_MESSAGE_DEFAULT = 'You have spent a lot of time on this site';
```

7.2 HTML

The **HyperText Markup Language**, or **HTML** is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript.

Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by *tags*, written using angle brackets. Tags such as `<img />` and `<input />` directly introduce content into the page. Other tags such as `<p>` surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.

HTML can embed programs written in a scripting language such as JavaScript, which affects the behavior and content of web pages. Inclusion of CSS defines the look and layout of content. The World Wide Web Consortium (W3C), former maintainer of the HTML and current maintainer of the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997.[2] A form of HTML, known as HTML5, is used to display video and audio, primarily using the `<canvas>` element, in collaboration with javascript.

7.3 CSS

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML.[1] CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.[2]

CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts.[3] This separation can improve content accessibility; provide more flexibility and control in the specification of presentation characteristics; enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, which reduces complexity and repetition in the structural content; and enable the .css file to be cached to improve the page load speed between the pages that share the file and its formatting.

Separation of formatting and content also makes it feasible to present the same markup page in different styles for different rendering methods, such as on-screen, in print, by voice (via speech-based browser or screen reader), and on Braille-based tactile devices. CSS also has rules for alternate formatting if the content is accessed on a mobile device.[4]

The name *cascading* comes from the specified priority scheme to determine which style rule applies if more than one rule matches a particular element. This cascading priority scheme is predictable.

The CSS specifications are maintained by the World Wide Web Consortium (W3C). Internet media type (MIME type) `text/css` is registered for use with CSS by RFC 2318 (March 1998). The W3C operates a free CSS validation service for CSS documents.[5]

In addition to HTML, other markup languages support the use of CSS including XHTML, plain XML, SVG, and XUL.

7.4 Javascript

JavaScript,[10] often abbreviated **JS**, is a programming language that is one of the core technologies of the World Wide Web, alongside HTML and CSS.[11] Over 97% of websites use JavaScript on the client side for web page behavior,[12] often incorporating third-party libraries.[13] All major web browsers have a dedicated JavaScript engine to execute the code on the user's device.[14]

JavaScript is a high-level, often just-in-time compiled language that conforms to the ECMAScript standard.[15] It has dynamic typing, prototype-based object-orientation, and first-class functions. It is multi-paradigm, supporting event-driven, functional, and imperative programming styles. It has application programming interfaces (APIs) for working with text, dates, regular expressions, standard data structures, and the Document Object Model (DOM).

The ECMAScript standard does not include any input/output (I/O), such as networking, storage, or graphics facilities. In practice, the web browser or other runtime system provides JavaScript APIs for I/O.

JavaScript engines were originally used only in web browsers, but are now core components of some servers and a variety of applications. The most popular runtime system for this usage is Node.js.

Although Java and JavaScript are similar in name, syntax, and respective standard libraries, the two languages are distinct and differ greatly in design.

7.5 ReactJS

React (also known as React.js or ReactJS) is a free and open-source front-end JavaScript library for building user interfaces based on UI components. It is maintained by Meta (formerly Facebook) and a community of individual developers and companies. React can be used as a base in the development of single-page or mobile applications. However, react is only concerned with state management and rendering that state to the DOM, so creating React applications usually requires the use of additional libraries for routing, as well as certain client-side functionality

Declarative

React makes it painless to create interactive UIs. Design simple views for each state in your application, and react will efficiently update and render just the right components when your data changes. Declarative views make your code more predictable and easier to debug.

Component-Based

Build encapsulated components that manage their own state, then compose them to make complex UIs. Since component logic is written in JavaScript instead of templates, you can easily pass rich data through your app and keep state out of the DOM.

Learn Once, Write Anywhere

We don't make assumptions about the rest of your technology stack, so you can develop new features in React without rewriting existing code.

React can also render on the server using Node and power mobile apps using React Native.

CHAPTER 8

Negative Effects Of Internet On Youth

- **Addiction**

With ease of use and availability comes a deadly side- effect: addiction. Today's youth is tech-savvy, that is, they are quite adept at using technology for all purposes. In addition to general and necessary usage, youngsters are now experiencing difficulty in letting go of gadgets which are connected to the dynamic internet service. Constantly checking new messages, refreshing FB news feed on repeat, and playing games online all night are actions not unheard of. The internet is taking over the minds of the youth, who seem to be unable to function at all without it. It is increasingly becoming an unhealthy habit which needs to be curbed consciously.

- **Reduction In Physical Activity**

While spending hours at a stretch on the internet, youngsters are left with little time for other tasks, especially healthy physical activity. Playing online games has become more in demand than going out to play a proper sport. Glued to their laptop/cellphone screens, the young guns of the nation are limiting their physical activity greatly. It seems like doing household chores too are a burden to them. The internet has provided a virtual space to the youth, where they prefer to stay for majority of their time by personal choice. This not only wastes their precious time, but also hinders physical and mental development. Brain disorders, self- esteem issues, obesity are some of the issues that can be triggered by excessive use of technology and restriction in physical activity.

- **Cyber Crime**

The internet is not a very safe space. It is prone to a lot of criminal activities and threats to privacy. The internet is home to a lot of illegal websites and unethical content which when accessed, can lead to trouble for the user. This use can be unintentional, but the dangers are uniform for all. The youth today remains vulnerable to a lot of fraudulent activity online, which they must be careful with. Moreover, a thousand kinds of viruses and other such unwanted entities can attack an individual's gadget, putting their sensitive information at risk. Unethical hacking is quite rampant these days, and the common man is not as well equipped to handle risky situations like this. Social media applications use the phone's location to post online. This is open to the public, and even though you may be careful about everything, there is no guarantee that you cannot be traced down by malevolent beings. The usage of internet services needs to be judicious and the user, discerning.

- **Psychological Blocks**

One may have hoped that exposure to the internet would bring the best in the youth. This is not the case on ground. Virtual establishment of networks and relations has led to personality issues in many youngsters. They fear face to face conversation, and feel more comfortable when interacting through a screen. Trust, self- confidence, and happiness are not found on a virtual page. One cannot take away from the benefits of personal interaction and public speaking. The internet has had a huge impact on intra- personal and inter-personal relationships. Creative blocks, insomnia, and insecurity are a result of excessive use of internet.

CHAPTER 9
FUTURE SCOPE

In future enhancement we are planning to make this project Adding some more functionalities in it like Idle time interval, Time tracker in icon. Add domain to black list, activity for these domains not will tracked. Set day time limit for the site. And we are also planning to implement this on android devices.

The future of social communications will be shaped by an *always-online* culture. *Always online* is already here and will set the trend going forward. Total connectivity, the Internet you can take with you wherever you go, is growing unstoppably. There is no turning back for global digitalization.

Innovation is the driving force of growth and progress, so we need to shake up entrenched processes, products, services, and industries, so that all of us together—including established businesses, reacting to their emerging competitors—can move forward together.

Innovation is shaping and will continue to shape the future of social communications. It is already a reality that Internet connections are increasingly mobile. A survey we conducted in early 2013 in partnership with Ipsos found that 94 percent of Tuenti users aged 16 to 35 owned cell phones, 84 percent of users connected to the Internet using their phones, and 47 percent had mobile data subscriptions for connecting to the Internet. A total of 74 percent of users reported connecting to the Internet from their phone on a daily basis, while 84 percent did so at least weekly. Only 13 percent did not use their phones to connect to the Internet, and that percentage is decreasing every day.

Mobile Internet use alters the pattern of device usage; the hitherto familiar ways of accessing the Internet are changing too. The smartphone activities taking up the most time (over three hours a day) include instant messaging (38%), social media use (35%), listening to music (24%), and

web browsing (20%). The activities taking up the least time (under five minutes a day) are: SMS texting (51%), watching movies (43%), reading and writing e-mail (38%), and talking on the phone (32%). Things are still changing.

Smartphones are gaining ground in everyday life. Many of the purposes formerly served by other items now involve using our smartphones. Some 75 percent of young people reported having replaced their MP3 player with their phone, 74 percent use their phone as an alarm clock, 70 percent use it as their camera, and 67 percent use it as their watch.

We have been observing these shifts for a while, which is why we decided to reinvent ourselves by placing smartphones at the heart of our strategy. I want to use this example as a showcase of what is happening in the world of social communication and the Internet in general: mobile connectivity is bringing about a new revolution. Tuenti is no longer just a social network, and social media as a whole are becoming more than just websites. The new Tuenti provides native mobile apps for Android, iPhone, Blackberry, Windows Phone, as well as the Firefox OS app and the mobile version of the website, m.tuenti.com. Tuenti is now a cross-platform service that lets users connect with their friends and contacts from wherever they may be, using their device of choice. A user with a laptop can IM in real time with a user with a smartphone, and switch from one device to another without losing the thread of the conversation. The conversations are in the cloud, so data and contacts are preserved independently of the devices being used. This means the experience has to be made uniform across platforms, which sometimes involves paring down functionalities, given the processing and screen size limitations of mobile devices. Facebook, Twitter, Instagram, LinkedIn, and so on are all evolving to become increasingly cross-platform experiences. But Tuenti is the first social network that has also developed its own Mobile Virtual Network Operator (MVNO)—the company is an Internet service provider over the mobile network. Tuenti is an MVNO with a social media angle, and this may be the future path of telecommunications.

Social media are evolving to become something more, and innovation must be their hallmark if they are to continue being relevant. Tuenti now embraces both social communications and

telecom services provision, offering value added by letting you use the mobile app free of charge and without using up your data traffic allowance, even if you have no credit on your prepaid card—this is wholly revolutionary in the telecom sector. The convergence of social media with more traditional sectors is already bringing about a new context for innovation, a new arena for the development and growth of the Internet.

Just about everything in the world of the Internet still lies ahead of us, and mobile communications as we know them must be reinvented by making them more digital. The future will be shaped by innovation converging with the impact of mobility. This applies not just to social media but to the Internet in general, particularly in the social communications field. I feel that many people do not understand what we are doing and have no idea of the potential development of companies like ours at the global level. Right now, there may be somebody out there, in some corner of the world, developing the tool that will turn the Internet upside down all over again. The tool that will alter our day-to-day life once more. Creating more opportunities, providing new benefits to individuals, bringing more individual and collective well-being. Just ten years ago, social media did not exist; in the next ten years, something else radically new will emerge. There are many areas in which products, processes, and services can be improved or created afresh. The future is brimming with opportunities, and the future of the Internet has only just begun.

Here is how this process has had a positive impact on youth:

- **Employment Opportunities**

Ever since the recruitment process for organisations shifted online, employment opportunities are aplenty for youngsters. Today we have several websites that provide the youth with thousands of job opportunities that can be filtered online according to their requirements. HR professionals and recruitment agencies seek talent through these websites, and the whole process of applying to various organisations online is a fruitful one for most. These websites are a gold mine for the youth where they can sell their skills too. With the touch of a button, a host of opportunities present themselves to this generation.

- **Digitization Of Payment Processes**

Gone are the days when one had to stand in long queues or for long hours at offices to pay for bills or buy tickets for a movie. The youth is self- sufficient and efficient with their payment procedures and online transactions. They use the internet to pay mobile/credit card bills, buy movie/concert/flight/train tickets, book cabs/autos, shop for clothes/electronics/groceries, and even apply for official IDs/visas/reimbursements/insurance policies. The internet has provided a world of comfort to the busy youth by easing out the erstwhile tedious procedures for all kinds of official and unofficial tasks. E-business is thriving, and how!

- **Educational Facilities**

Since the internet is accessible to a large chunk of the population, educational institutions have opened up avenues online for aspirants. Colleges, schools, private institutions, coaching classes etc. advertise online nowadays. Many institutions and universities have even made their admission processes entirely online. One can apply for admission, submit documents and fees, and confirm the admission online itself. Moreover, the youth can now access a gigantic amount of study material online, and even earn certifications and long- distance degrees through internet. As far as learning is concerned, the internet has proven to be a boon for the youth.

- **Social Connectivity**

While there is ongoing debate about the futility of social media applications, one cannot take away from the advantages of these with respect to connectivity. Social media forums have made the world a smaller place. One can connect with their loved ones from anywhere around the world. Students and professionals who shift within the nation or abroad for studies or work can keep in regular touch with their parents and relatives. It is so much more convenient now to reach out to friends and family for any kind of assistance

- **Networking**

Social media connectivity is only a part of the global networks being formed by youngsters nowadays. We now have networking applications such as LinkedIn where professional networks can be constructed with ease. These networks prove to be a great support along professional journeys. The youth can participate in such networking through the various forums available on the internet and not only seek professional assistance, but also provide others with the same. Seeking as well as providing services on a global level has been made possible only due to the opportunities that the internet provides.

- **Safety**

With a host of online services and mobile applications available these days, ensuring one's safety has become a more plausible task. While taking a cab, GPS facilities help in tracking routes and destinations. Not only this, many cab apps come with the facility of an SOS tab that can send emergency signal to the concerned authorities in case the traveller feels at risk. In addition to this, the government has launched women's safety applications that can be downloaded on Android Web. These ensure that help is available to the women in any kind of situation, at any location.

CONCLUSION

The Internet is the best for work. The Internet is the worst for work. To avoid from such distraction you can use extension -Watcher. Watcher your time spent on distracting sites. Watcher is an extension that allows you to set time limits for distracting websites and your web usage.When you control your time on distracting websites, you'll find you have far more time to focus on the things that matter most.To use Watcher, simply enter the websites you find distracting and choose a daily time limit. For example, you could limit yourself to ten minutes a day on Facebook, or half an hour a day on Duolingo.When you approach your limit, watcher gently notifies you your time is almost up, so you can wrap up.

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