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Karl Dicks

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Attachment 1 6 %

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PROG3B Task 1 - Karl Dicks - 17667327.pdf

Global database (4) 4 %

- 2 *Student paper*
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- 6 *Student paper*

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- 3 *reinventenglish*

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- 6 *Student paper*
- 2 *Student paper*
- 1 *Student paper*

Excluded sources (0)

PROG 3B TASK 1 Part 1 - Research

Application: Dewey Training Application ID: DT1.16

Version: 1.16 Student Name: Karl Dicks Student Number: 17667327 Course: BCAD3 Subject: PROG7312 Lecturer: Nirasha Ramckurran Assignment: Task 1 Due Date: 18/09/2020

1

Contents Introduction..... 2

Gamification Feature List..... 3

Gamification Features for Dewey Training..... 5

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2

Introduction Our PROG 3B Task 1 describes an application which would help to familiarize librarians with

the Dewey Decimal system, which is a classification system used by libraries to group books

together by broad topic (number before the decimal), and then use further numbers and

letters to group books into more specific topics and subtopics (numbers and letters after the

decimal). (Washington State University, n.d.)

decimal). (Washington State University, n.d.)

Each book is issued a “Call Number”, which determines it’s subject or topic, and other identifying information (eg author and subcategory).

The books are arranged into ten broad classifications, shown below:

000 Computer science, information and general work

100 Philosophy and psychology

200 Religion

300 Social Sciences

400 Language

500 Science

600 Technology

700 Art and recreation

800 Literature

900 History and geography

(Sixthformstudyskills, n.d.)

In order for the application to be engaging, and mentally stimulating, the application should implement a number of learning techniques, which is often referred to as “Gamification”.

Gamification is the process of making an application or process into a game, which often enhances learning. The application therefore uses game elements and game design techniques in non-game contexts. (Quicksprout, 2016)

① Gamification is the concept of applying game mechanics and design techniques to motivate and engage people to achieve their goals (in this case understanding the Dewey Decimal system). ② Gamification taps into the basic desires and needs of the user’s impulses, which revolve around the status of achievements. (Quicksprout, 2016)

In order to make my application engaging, and encourage the efficient and effective use of the Dewey Decimal system, I will describe a number of gamification techniques, and then detail which ones will be best suited for use in my own project. (Quicksprout, 2016)

3

Gamification Feature List There are a number of ways in which you can implement gamification in an application, including the below features:

• Leaderboards / Recognition

A leaderboard system would provide a competitive aspect to the training application, where “game” completion times will be logged and displayed on the main menu, so that all users of the application may view the top ten high scores, and their usernames.

A natural desire that most people have is the urge to compete with one another, and by timing game sessions, this potential for competition can be implemented. (Quicksprout, 2016)

• Progress

One of the simpler gamification techniques would be to show the user how their game times have improved over time. For Task 1 of our project, we are to develop a system where a user can correctly order call numbers, and the time it takes to order a list of call numbers determines how efficient the librarian or student is at “replacing” or correctly ordering books on the shelves.

By showing a list of personal best times, ordered by time ascending, the person can get an understanding of their own progress. (Quicksprout, 2016)

• Challenges

The application will implement different levels of difficulty, so the user has different time limits to complete the tests or “games” within.

This provides different challenges depending on the difficulty setting selected by the user – set on the home screen.

For example, the user may choose to compete on the “Hard” difficulty setting, which only provides thirty seconds to correctly order the ten call numbers, or “Medium” which allows for forty seconds.

If the user does not complete the game within the stipulated time, they will have to restart the game. (Quicksprout, 2016)

• Rewards

A reward system could be implemented, where certain virtual “medals” or “trophies” are given to the top three scores in the leaderboard. This will implement a podium-like reward system, where only the top three scores will receive these rewards or trophies.

This further encourages the librarians or students to compete on the application. (Laja, n.d.)

4

• Feedback

Continual feedback will be provided to the user, in the form of a timer, which will be displayed during the game. It will show the time remaining, depending on which difficulty setting was selected by the user. (Laja, n.d.)

5

Gamification Features for Dewey Training I would recommend that the Dewey Training software implement the following gamification features:

• Leaderboards / Recognition

A leaderboard system would provide a competitive aspect to the training application, where “game” completion times will be logged and displayed on the main menu, so that all users of the application may view the top ten high scores, and their usernames.

A natural desire that most people have is the urge to compete with one another, and by timing game sessions, this potential for competition can be implemented. (Quicksprout, 2016)

Once deployed, the system will use an online hosted database, such as Azure SQL Database, so that all users in the library can compete with one another, and not just on a single computer.

I would recommend this gamification feature, as it would provide a way for both librarians and students to compete with one another, while also actively learning the system in the process.

This feature would provide a great way of competition and therefore active learning

3 of the Dewey Decimal system.

In addition to this, the aim of the feature is to shorten the duration of time required to order the books, and therefore if librarians can correctly order them faster, then they will complete their job faster.

• Progress

One of the simpler gamification techniques would be to show the user how their game times have improved over time. For Task 1 of our project, we are to develop a system where a user can correctly order call numbers, and the time it takes to order a list of call numbers determines how efficient the librarian or student is at "replacing" or correctly ordering books on the shelves.

By showing a list of personal best times, ordered by time ascending, the person can get an understanding of their own progress. (Quicksprout, 2016)

This feature will be developed and implemented so that the students or librarians learning the Dewey Decimal system can see their progress over time, and see how efficient their ordering skills have become, after using the system for a while.

6

• Challenges

The application will implement different levels of difficulty, so the user has different time limits to complete the tests or "games" within.

This provides different challenges depending on the difficulty setting selected by the user – set on the home screen.

For example, the user may choose to compete on the "Hard" difficulty setting, which only provides thirty seconds to correctly order the ten call numbers, or "Medium" which allows for forty seconds.

If the user does not complete the game within the stipulated time, they will have to restart the game. (Quicksprout, 2016)

This provides a competitive aspect to the training software, as the user can set their desired difficulty, and attempt to beat it, eventually being able to win the games at "Hard" difficulty.

• Rewards

A reward system could be implemented, where certain virtual "medals" or "trophies" are given to the top three scores in the leaderboard. This will implement a podium-like reward system, where only the top three scores will receive these rewards or trophies.

This further encourages the librarians or students to compete on the application. (Laja, n.d.)

Simple virtual "trophies" will be provided to the top three students or librarians who order the books faster than other users. For example, the application will show the top score in gold, the second in silver, and third in bronze.

• Feedback

Continual feedback will be provided to the user, in the form of a timer, which will be displayed during the game. It will show the time remaining, depending on which difficulty setting was selected by the user. (Laja, n.d.)

7

Conclusion In conclusion, these five gamification features will be implemented in the application, so that the training becomes more game-like in that the users become competitive, and the learning experience is more enjoyable and interactive. This will likely result in a higher level of use, and therefore students and librarians will learn from the training software more efficiently and effectively.

As mentioned in the introduction, the application is a training system for the Dewey Decimal ordering system, which needs to be efficient and effective at teaching librarians and students how to use the Dewey Decimal system, and with the above gamification techniques implemented, the learning process will become more enjoyable, and produce better results than if these techniques were not implemented.

8

References Laja, P. (n.d.). (4) How to Use Gamification for Better Business Results. Retrieved from Neilpatel: (5) https://neilpatel.com/blog/gamification-for-better-results/

Quicksprout. (2016, 07 15). (6) How to Easily Add Gamification Techniques to Your Content. Retrieved from Quicksprout: (6) https://www.quicksprout.com/how-to-easily-add-gamification-techniques-to-your-content/

Sixthformstudyskills. (n.d.). (3) Introduction to the Dewey Decimal system. Retrieved from Sixthformstudyskills: https://sixthformstudyskills.ncl.ac.uk/libraries/overview-the-dewey-decimal-system/

Washington State University. (n.d.). How to Read Call Numbers. Retrieved from libguides.libraries.wsu.edu: https://libguides.libraries.wsu.edu/callnumbers/dewey

Source Matches (8)

(1) *Student paper* 88%

Student paper

Gamification is the concept of applying game mechanics and design techniques to motivate

Original source

Gamification is the concept of, “Applying game mechanics and game design techniques to

(2) *Student paper* 69%

Student paper

Gamification taps into the basic desires and needs of the user’s impulses, which

Original source

Gamification taps into the basic desires and needs of the users impulses which revolve around the idea of status and achievements

(3) *reinventenglish* 97%

Student paper

of the Dewey Decimal system.

Original source

Dewey Decimal System

(4) *Student paper* 100%

Student paper

How to Use Gamification for Better Business Results.

Original source

How to use gamification for better business results

5 *Student paper* 100%

Student paper

https://neilpatel.com/blog/gamification-for-better-results/

Original source

https://neilpatel.com/blog/gamification-for-better-results/

6 *Student paper* 70%

Student paper

https://www.quicksprout.com/how-to-easily-add-gamification-

Original source

https://www.quicksprout.com/how-to-easily-add-gamification-techniques-to-your-content/ (Accessed 18 September 2020)

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Student paper

How to Easily Add Gamification Techniques to Your Content.

Original source

How to Easily Add Gamification Techniques to Your Content

3 *reinventenglish* 82%

Student paper

Introduction to the Dewey Decimal system.

Original source

Dewey Decimal System

Attachment 2 22 %

Word Count: 3,880
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Institutional database (4) 21 %

1 *My paper*
2 *My paper*
3 *My paper*
8 *Student paper*

Global database (2) 1 %

7 *Student paper*
6 *Student paper*

Internet (2) 0 %

4 *epdf*
5 *wikipedia*

Top sources (3)

1 *My paper*
2 *My paper*
3 *My paper*

Excluded sources (0)

PROG 3B TASK 1 Documentation

Application: Dewey Training Application ID: DT1.16

Version: 1.16 Student Name: 1 Karl Dicks Student Number: 17667327 Course: BCAD3 Subject: PROG7312 Lecturer: 1 Nirasha Ramckurran Assignment: Task 1 Due Date: 18/09/2020

1

2

① Introduction As part of our PROG7312 (3B) module, we were tasked with developing a Dewey Decimal training application. ① I chose to develop the application in C#, using the Visual Studio 2019 IDE, as we were familiar with this IDE from other programming modules. My application has been built in Windows Presentation Foundation (WPF) in .Net Core 3.1. There were a number of requirements that the application had to perform, which have been implemented in my Task 1, and this will be expanded on for Task 2 and the POE projects, in accordance with our set question paper. ① (The Independent Institute of Education, 2020)

The training application allows users to perform multiple actions, including:

② • Register and login

① The training application allows the user to register an account with their own preferences, and log in. ③ User profiles are stored in a local MSSQL MDF file, along with their scores used by the application. ③ This database can easily be migrated to an online Azure database, so that high scores are accessible by everyone in the library or elsewhere.

• Replace Books

The application will allow users to order randomly generated Dewey Decimal Call Numbers (10) – including the decimals and authors into the correct order.

Once the user correctly orders the call numbers, by dragging the books to their correct order, the user will be automatically navigated to a confirmation page.

• Gamification Techniques

A number of gamification techniques have been implemented, including all those described in the research document.

These include:

o Leaderboards

The user will be able to see the top ten scores (game completion times), as these are saved for signed-in users and stored in the database file. These scores are then retrieved and displayed on the home screen when the user first loads the application. (Quicksprout, 2016)

o Challenges

The application has implemented a timer, and difficulty levels. For example, the user can set the difficulty to “Easy” which allows the user 60 seconds to complete the ordering process. They can set it to “Medium” for 40 seconds, and “Hard” for 30 seconds. This provides different levels of difficulty for the user to complete the ordering in set timeframes. (Quicksprout, 2016)

o Feedback

The application displays a timer, and once the timer reaches 10 seconds, it will start to alternate between red and white text color, to indicate that the time is almost finished for the user to complete the ordering. (Laja, n.d.)

3

o Rewards

The application shows the top ten scores on the home screen, and these scores are for logged in users only, as the score is linked to their user account. Anonymous users can still use the application without logging in, and will receive their time, however it will not be logged and displayed on the home screen.

The top three scores will have different colours, much like a podium system, where the top scorer gets their row in gold, second in silver, and third in bronze. (Laja, n.d.)

o Progress

In addition to the above gamification techniques, the user will be able to view all their personal scores on a grid view, and this will be displayed by highest score first (lowest time taken to complete the ordering). This allows the user to track their progress over time, if they are logged in. (Quicksprout, 2016)

• Restart Training

Finally, the user will be able to restart their game by pressing the "Restart" button on the "Replace Books" page. This will reset the timer, replace the books with new auto-generated call numbers and authors, and allow them to start the game again.

(1) (The Independent Institute of Education, 2020)

4

(1) Help File The training application provides numerous functions, which will be described in depth in the following section. (1) The help file has been broken up into multiple sections, describing each page of the desktop application.

Home Page

The application will first load to the home page, as an "Anonymous User".

An anonymous user can view all high scores, set difficulty of the game, login, register, and access the "Replace Books" function required for Task 1.

• The high scores will be displayed in a data grid on the right-hand side of the home screen, with scores (time taken to complete the ordering of the books), usernames, and the date and time that the user took the test.

• The user can access the "Replace Books" function, however they will not be able to save their high scores or access their score log without signing in. Therefore, their high score will not be displayed on the home screen.

• In addition to this, the top three scores are displayed with different background colours, in order to create a podium-like system. For example, the highest score will be displayed with a gold background, second highest will be displayed with a silver background, and the third will be displayed with a bronze background.

• The user may use button click events to complete the following actions:

o Navigate to the login / registration page,

o Navigate to the replace books page,

o Navigate to the identify areas page,

o Navigate to the view all scores page,

o Exit the training application,

o Minimize the window.

• Once the user has logged in, and is no longer an anonymous user, they may select a "View All Scores" button on the home screen, which will display their score log on a data grid.

• The user may select the different score views by selecting the "Set Score View" combo box and choosing a test type.

• The user may also set the game difficulty by selecting the combo box at the bottom of the main page, and from there they can select either "Easy", "Medium", or "Hard", which will set the time limit for the various games.

The login functionality will be described next.

5

Login Page

(1) Once the user selects the "Login" button on the home screen, they will be brought to a page where they can log into an existing account, or register a new account on the system.

The login page provides a number of buttons, and input, including:

• Username input,

• Password input,

(1) • Register button – brings the user to a registration page,

• Login button – logs the user in,

• Back button (left arrow at the top left of the screen).

(1) The user can enter their unique credentials, and log into their account. The logged in username at the top left of the screen will be changed to "User: <username>", eg "User: Karl".

(1) Once the user has logged in successfully, they will be brought back to the home page, where they can navigate to all functionality of the application.

The login page validates user accounts, and therefore if the user credentials are incorrect, they will not be logged in, and a generic "Username / Password Incorrect" message will be displayed.

This is a generic message, as to not encourage username harvesting, whereby users attempt to determine valid usernames, if only the password is incorrect – eg the message does not display "Password Incorrect", when a username is in fact valid, however a password is incorrect.

Register Page

The user can navigate to the register page, once they press the "Register" button on the login page. (3) This page allows new users to sign up an account with the system.

A number of buttons and input boxes are displayed on the register page, including:

• Username input,

• Password input,

• Confirm password input,

(1) • Register Account button,

• Back button (left arrow at the top left of the screen).

The user can enter unique credentials on this page, and create a new account with the system. If the user enters a username already in use, an error message will be displayed, and password validation ensures both the confirm password and password input boxes contain the same password values.

Once the user enters valid credentials, they can press the “Register Account” button, which

① will create the account in the database, and navigate the user back to the login page, where they can login with their new details.

6

Replace Books

This page provides functionality required for our Task 1 submission, where the user can:

• View auto-generated Dewey Decimal Call Numbers, which are shown on a data grid on the right of the page. These Dewey Decimal’s show the decimal as well as the author.

Both of these values (decimal, and author) are automatically generated using a custom random generator.

• Re-order the books into their correct order, as the application randomly places books on the “shelf”, for example, the Dewey Decimal system requires that all books are ordered by numerical order as well as alphabetically – eg “035.8605 NVG” comes before “035.8605 ZAK” or “035.8605 NVG” comes before “125.8605 ABC”.

The user can simply drag and drop rows (books) into the correct order on the “shelf”, once they press the “Start” button.

• Start the game by pressing the “Start” button on the bottom left of the page. Once started, the timer will start to tick down to show the time remaining. The difficulty setting will determine how long the user has to correctly order the books.

In addition to this, the Call Numbers will be generated again, so users cannot determine where the books should be before starting the game, and have the timer tick down.

• The user may return to the main page by pressing the “Return” button. This will cancel the current training session or “game”. This score will not be logged, and the user will have to restart the game to start again.

Once the user re-orders all books, they will be navigated to a confirmation page, where they can view time taken to order the books (score in seconds). If they are logged in, this score will be saved in the database, along with the logged in user and time taken of the test.

Confirmation Page

Once the books have been ordered, or the time has run out, the user will be navigated to a confirmation page, which will either display “The books have been successfully ordered” or “The books have not been successfully ordered”.

When the user orders the books in the correct order within the specified timeframe (eg 30 seconds), the time taken to complete the ordering of the books will be displayed.

In addition to showing this information, the following actions can be completed on this page:

• Finish – navigates the user back to the home page.

• View Order – navigates the user to a page where the correct order of the books is displayed, according to the Dewey Decimal System – in numerical and alphabetical order.

7

(1) Readme Project Title: Dewey Training

Welcome to Dewey Training. This new desktop application has been developed for librarians and other users to learn the Dewey Decimal ordering system. The aim of this application is to get librarians and other users of the system to order and manage books efficiently at libraries. This would improve efficiency, and accuracy of these users, when they replace books on the numerous shelves in a library.

This application encourages users to improve their book replacement efficiency, and by

(4) extension the learning of the Dewey Decimal system. By implementing gamification techniques, such as leaderboards, challenges, feedback, rewards, and progress, the user is encouraged to compete with one another, and learn in the process. By tracking and displaying this information, the user is more likely to see the training software as a game, and therefore compete with one another.

In addition to this, the database will eventually be deployed to an online hosting platform (eg Azure SQL database), so that users on different devices may be able to compete with one another – they will be able to see one single leaderboard across multiple devices.

Getting Started

(1) The following steps are required to get the Dewey Training software running on the development environment:

(1) • Open the application source code in Visual Studio

• Set the start-up project to “Dewey Training”

• Run the application on any Windows PC

• Ensure the system is using the dot “.” Delimiter for decimals (EN-US)

Prerequisites

(2) There are a few prerequisites required to run the application, including:

(1) • Install the *latest Visual Studio

• Install prerequisites to run .Net Core 3.1 WPF desktop applications

(1) *latest Visual Studio as of when the application was developed is: Visual Studio 2019

(1) More detailed specifications are included below

Microsoft Visual Studio Enterprise 2019

Version 16.7.2

VisualStudio.16.Release/16.7.2+30413.136

Microsoft .NET Framework

Version 4.8.04084

8

Installing

(1) • Open the application source code in Visual Studio

• Set the start-up project to “Dewey Training”

• Run the application on any Windows PC

(1) The development test system has been detailed on the following page.

9

Test System

Development PC

10

Built With

(2) Visual Studio – The IDE used to develop the desktop application

.NET Core 3.1 – Framework

WPF – Windows Presentation Foundation – Used to design the application in C# and XAML

Models – Used to structure data within the application.

Data Access Layer (DAL) – Assembly used to access the database.

Versioning

Version 16

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(2) Authors Karl Dicks – 17667327

Acknowledgments Inspiration: Programming 3B POE Question Paper

Demo Video link: (2) https://youtu.be/BvGGQlEeJBQ

https://youtu.be/BvGGQlEeJBQ

11

(2) Screenshots The user interface for Dewey Training desktop application has been designed, and all functionality has been implemented. Below is the

(2) interface for my application:

Home Page

Once the user loads the application for

the first time, they will be presented

with the home screen, and will not be

logged in.

(1) The user can navigate to the login page,

or complete training “games”

anonymously, which will not save their

scores to the database.

If the user would like to log in, and save

their scores to the database, they can

(2) log into their account by pressing the

“Login” button.

This action will bring them to the page

(1) provided on the following page.

12

Login

Once the user navigates to the login

page, they can either log in with their

previously created account, or register

1 a new account by pressing the

"Register" button.

Once the user registers a new account,

1 they are brought back to the login page,

3 and can enter their account details.

1 Once the user has pressed login, and

the account is valid, they are brought

1 back to the home page.

The register page is shown on the

following page.

13

Register

Once the user navigates to the register

page, they can enter their account

details, and press the "Register

Account" button to create a new

1 account on the system.

Once the user registers a new account,

1 they are brought back to the login page,

3 and can enter their account details.

The register page has input validation,

1 so the passwords must match, and the

username cannot be in use by another

account.

14

Replace Books

The "Replace Books" page can be

accessed by pressing the "Replace

1 Books" button on the main menu,

which opens a new "game" or training

session.

The replace books training session

works by getting users to re-order the

randomly generated call numbers, in

numeric and alphabetic order – just like

4 the Dewey Decimal system describes.

Once the user is ready to start the

training session, they can press the

"Start" button, which will refresh the

call numbers and enable dragging of

the Dewey decimals on the data grid.

Once the order is correct, the user will immediately be navigated to a confirmation page, where they can view the model answer, or return to

1 the main menu.

15

Replace Books

The user may re-order the books by dragging them across the page (clicking, holding, and moving them), which will allow the books to be re-ordered.

1 As can be seen on the provided image, the books have been partially ordered, and the timer is ticking down from 60 seconds, as the difficulty level has been set to “Easy” on the home page.

16

Confirmation Page

As soon as the correct order has been reached (once the call numbers are in their correct order), the user will be navigated to a confirmation page.

Firstly, this page will show whether the user has successfully ordered the books, with a confirmation message, and the time it took them to complete the session.

This confirmation page also provides the user with the ability to “View Order”, which allows them to access the model answer for the training session. Users can press the “View Order” to view this page.

It also allows them to return to the

1 main menu by pressing the “Finish” button.

The “View Order” model answer page is

1 shown on the following page.

17

Correct Book Order

The “View Order” page is provided on the left, which shows the correct order of the Dewey decimal call numbers.

The user may press the "Finish" button
to navigate back to the main menu
after they have viewed the correct
order for the call numbers.
18
Identify Areas
The identification of areas can be
accessed by pressing the "Identify
1 Areas" button on the main menu,
which will navigate the user to the
provided page.
This match-the-column training
exercise provides the user with 4
randomly picked categories within the
Dewey decimal system, and 7 potential
answers on the right-hand side.
1 The user can press "Start", which will
randomize the questions and answers
again, and will allow the user to select
the correct answers from the
dropdown boxes in the middle of the
1 page – shown on the following page.
19
Identify Areas
The user may select the "Start" button,
and select all their answers from the
dropdown boxes next to each question.
For example, the image provided shows
the answers to the provided training
session.
This training system also has
gamification techniques implemented,
in the form of a countdown timer, and
logging of scores, much like the
"Replace Books" exercise.
Once columns have been matched, by
selecting an answer for each question
from the dropdown boxes, the user can
select "Next" to navigate the user to
the confirmation page.
1 Input validation has been implemented
on this page, so all inputs have to be
valid.
1 Shown next is the confirmation page.

20

Confirmation Page

Once the user has selected “Next” or the timer has run out, the user will be navigated to a confirmation page, where it will be determined if all answers were correctly answered (the columns were matched correctly).

If so, the user will be provided with their time.

The user can navigate back to the main menu by pressing the “Finish” button, view the model answer by pressing “View Answers”, or press “Next” for another “Identifying Areas” training session.

The model answer page is provided on the following page, where the answers

5 for all questions are provided.

21

Correct Book Areas

If the user presses the “View Answers” button, a page with the model answer will be provided, so that the students and librarians can learn from the system, and not only test their

4 knowledge of the Dewey decimal system.

1 If the user presses the “Return” button, they will be brought back to the confirmation page, where they can continue with another identifying areas session, or finish the game.

22

View All Scores – Replacing Books

If the user presses the “View All Scores”, a page with all their personal scores will be displayed for both the “Replace Books”, and “Identify Areas” training sessions.

If the user wishes to view scores for the “Identifying Areas” sessions, they can select that option from the dropdown

just above the “Return” button, and all
their scores for that game / training
① type will be displayed.
23
View All Scores – Identifying Areas
If the user selects the dropdown box
from above the “Return” button, they
are presented with all “game” types,
including “Replace Books”, “Identify
Areas”, and “Find Call Numbers”.
This can be set on the main menu page
as well, where the top ten scores are
shown.
The following image shows the scores
for “Identify Areas” training sessions for
① the logged in user.
This includes the username, score, and
the time that the test was taken.
24
Set Game Difficulty
If the user wishes to change the game
difficulty, by reducing the total time
that is allowed for each training
session, they can set the difficulty – the
lowest dropdown element on the
provided screenshot.
This will set the times of the counter to
60 seconds for Easy, 40 seconds for
Medium, and 30 seconds for Hard
difficulties.
25
Database Entities The User model defines what is saved for
① each user in the system. This includes the
user id, username, and password.
The Scores model defines what is saved for
each score entry in the database, which
includes the username of the user who
achieved the score, the score value, and
the date and time that the entry was
inserted into the database.
26
② Use Case Diagram

1 Use Case Diagram

27

1 Conclusion In conclusion, this documentation has provided extensive development information in order to detail how and why the Dewey Decimal desktop application was developed in the way that it was. 1 It described each function of each page within the “Help File” section, and provided user interface design information within the “Screenshots” section. A “Readme” 1 section was also included in the document to provide information about the development environment, instructions on how the desktop application should be run, and other such critical information to get the application running on the user’s PC.

1 Additional information such as all the database entities was provided, which detailed how and where data was stored by the application.

In addition to the above, a use case diagram was included, which showed core functionality of the desktop application from the user’s perspective.

During the course of this project, we have learnt how to develop advanced C# desktop applications in the .Net Core 3.1 Framework. We also learnt how to use a Data Access Layer – DAL to access information from a local MDF file, and later on this will be hosted online. In addition to this, we have learnt how to use advanced data structures, including Doubly Linked lists, Dictionaries, Key Value lists, and Observable Collections in addition to other datatypes.

1 Once we receive feedback for this task, we will be in a position to complete Task 2 and POE tasks, which build on the functionality of this application.

28

References

Jaboss. (n.d.). Library Icon. Retrieved from Cleanpng: https://www.cleanpng.com/png-library-computer-icons-librarian-reference-work-cl-5637031/

Laja, P. (n.d.). 6 How to Use Gamification for Better Business Results. Retrieved from Neilpatel: 7 https://neilpatel.com/blog/gamification-for-better-results/

Quicksprout. (2016, 07 15). 8 How to Easily Add Gamification Techniques to Your Content. Retrieved from Quicksprout: 8 https://www.quicksprout.com/how-to-easily-add-gamification-techniques-to-your-content/

1 The Independent Institute of Education. (2020). 3 PROG7312 POE Question Paper. Sandton: The 1 Independent Institute of Education.

Wolfie. (2019, 01 28). Library Background Image by Wolfie. Retrieved from Picsart: https://picsart.com/i/286394316039201

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Use Case Diagram.....

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Use Case Diagram

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Introduction As part of our OPSC7312 module, we were tasked with developing a mapping application for

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I chose to develop the application in C#, using the Visual Studio 2019 IDE, as we were familiar with this IDE from other programming modules.

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I chose to develop the application in Java, using the Android Studio IDE, as we were familiar with this IDE from OPSC7311 module

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(The Independent Institute of Education, 2020) The training application allows users to perform multiple actions, including:

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• Register and login

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· Register and login

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The training application allows the user to register an account with their own preferences, and log in.

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The application allows the user to register an account with their own preferences, and log in

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User profiles are stored in a local MSSQL MDF file, along

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User profiles are stored in a local MSSQL MDF file, along with products, categories, and other information used by the website

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This database can easily be migrated to an

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Help File The training application provides numerous functions, which will be described in depth in

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The help file has been broken up into multiple sections, describing

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The help file has been broken up into multiple sections, describing each

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Once the user selects the “Login” button on the home screen, they will be brought to a page

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button on the login page, they will be

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• Register button – brings the user to a registration page,

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Brings the user to a registration page, which allows the user to register a

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The user can enter their unique credentials, and log into their account.

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the user can log into their new account

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Once the user has logged in successfully, they will be brought back to the home page, where

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Once the user has successfully logged in to their account, they will be brought to the home

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This page allows new users to sign up an account with the system.

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The registration page allows the user to sign up a new account on the system

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• Register Account button,

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“REGISTER” button, their account will be

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will create the account in the database, and navigate the user back to the login page, where

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which will navigate the user back to the login page

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extension the learning of the Dewey Decimal system.

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The following steps are required to get the Dewey Training software running on the

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• Open the application source code in Visual Studio

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• Open the application source code in Android Studio

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There are a few prerequisites required to run the application, including:

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Visual Studio – The IDE used to develop the desktop application

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Android Studio – The IDE used to develop the application

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• Install the *latest Visual Studio

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• Install the *latest Android Studio

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https://youtu.be/BvGGQlEeJBQ
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More detailed specifications are included below

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More detailed specifications are included below

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Screenshots The user interface for Dewey Training desktop application has been designed, and all functionality has been implemented.

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The user interface for One Direction has been designed, and all functionality has been implemented

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• Open the application source code in Visual Studio

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• Open the application source code in Android Studio

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interface for my application:

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Below is the interface for my maps application

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The development test system has been detailed on the following page.

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The user can navigate to the login page,

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which will navigate the user back to the login page

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log into their account by pressing the

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The user may log out of their account by pressing this button

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provided on the following page.

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a new account by pressing the

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account by pressing the “REGISTER”

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they are brought back to the login page,

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the user back to the login page

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and can enter their account details.

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They may enter their personal, address, and account details

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Once the user has pressed login, and

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Account Created Once the user has pressed the

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back to the home page. The register page is shown on the

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back to the map page (home screen) register page (shown on the following

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account on the system.

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new account on the system

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they are brought back to the login page,

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They may enter their personal, address, and account details

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so the passwords must match, and the

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• Passwords Must Match

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Books” button on the main menu,

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button from the main menu

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the Dewey Decimal system describes.

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the main menu.

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Input validation has been implemented

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Input validation has been implemented

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As can be seen on the provided image,

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on the provided image)

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Shown next is the confirmation page.

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main menu by pressing the “Finish”

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for all questions are provided.

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and "All"—are provided

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shown on the following page.

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page (shown on the following page)

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knowledge of the Dewey decimal

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Dewey Decimal Classification

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Areas” button on the main menu, which will navigate the user to the

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button from the main menu which will navigate the user back to the login page

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If the user presses the “Return” button,

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if, the user presses the “Refresh Map” button

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The user can press “Start”, which will

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The user can now press the “START

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type will be displayed.

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the logged in user.

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each user in the system. This includes the

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registered user in the system This includes restaurants,

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Use Case Diagram

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Conclusion In conclusion, this document has provided extensive development information in order to detail how and why the application was developed in the way that it was

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It described each function of each page within the “Help File” section, and provided user interface design information within the “Screenshots” section.

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It described the functions of each page within the “Help File” section, and provided design information within the “Screenshots” section

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section was also included in the document to provide information about the development environment, instructions on how the desktop application should be run, and other such

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A “Readme” section was also included to provide development environment information, instructions on how the application should be run, and other such information

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Additional information such as all the database entities was provided, which detailed how and where data was stored by the application. In addition to the above, a use case diagram was included, which showed core functionality of the desktop application from the user’s perspective.

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Additional information such as a data listing was provided, which detailed how, where, and why data was stored by the application Lastly, a use case diagram was included, which showed all functionality of the program, from the user’s perspective

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