**CHAPTER I**

**THE PROBLEM AND ITS BACKGROUND**

**1.1 INTRODUCTION**

Grades 11 and 12, the final two years of the K–12 Basic Education Program, are referred to as senior high school (SHS). According to DepEd, in school year 2012-2013, the enhanced curriculum for K to 12 was implemented. In 2013, K to 12 was enacted into law knows as RA 10533 or the Enhanced Basic Education Act of 2013. SHS Curriculum was finished in 2014 and for 2015, the Department in getting ready for the implementation of the SHS. Senior High School (SHS), a new level of fundamental education made up of grades 11 and 12, was introduced by DepEd in June 2016 nationwide. The SHS includes four different tracks – Academic, Technical-Vocational-Livelihood (TVL), Sports and Arts and Design track. Under the academic track, there are four strands – General Academic Strand (GAS), Science, Technology, Engineering, and Mathematics (STEM), Accountancy, Business, and Management (ABM), and Humanities and Social Sciences (HUMSS). And under the TVL track, there are also four strands – Agri-fishery Arts, Home Economics, Industrial Arts, and Information and Communication Technology (ICT). According to DepEd Memorandum No. 76, s. 2016, all students are required to go through the additional 2 more years or the Senior High School before they entered college.

Selecting a track and strand to be taken in senior high is a crucial decision for students', because their futures inclined with it. Some grade 10 students are facing difficulties in choosing track and strand that will fit for them. The Department of Education (DepEd) conducts the National Career Assessment Examination (NCAE) to help students to decide what career to pursue in college. The purpose of NCAE is to assess students' abilities using a standardized examination. Aside from giving a measure of the skills, NCAE also provides recommendations on what types of job are suitable for the students (Philippine Congress 2013). The NCAE results shall also be used for entry assessment to the specific senior high school (SHS) tracks and strands in all public and private schools. However, the information that NCAE offers is just one of the many aspects a student may consider in choosing a track and strand for senior high school or a career track. This manual system takes a long period of time to get the result of the examination.

**1.2 BACKGROUND OF THE STUDY**

The idea of developing this system is generally focused on assisting students in making the right choice for senior high school. It will serve as a support system for those incoming senior high school students. Selecting a strand to be taken in senior high is a crucial decision for students’, because their futures inclined with it, so they need to choose wisely for their future because if not it may lead them to a situation that they can’t finish their study because they choose a track and strand that they don’t like, to avoid this kind of situation students should know their personality and interest with the support of a Senior High School Track and Strand Decision Support System (SHStudent).

**1.3 OBJECTIVES OF THE STUDY**

The general objective of this capstone project is to develop a web-based application in choosing the track and strand chosen by Grade 10 students.

Specifically, this aims to:

1. To provide basic information about the different tracks and strands.
2. To display the possible subjects in each track and strand.
3. To provide relevant information through dashboard based on the answers by the students to the given assessment form.
4. To display nearby schools who offers that particular track and strand.

**1.4 CONCEPTUAL FRAMEWORK**

**Input** **Process** **Output**

***Planning***

1. Investigation and observation conducted.
2. Gathering data and information.

***Analyzation***

1. Analyzing all the data and requirements gathered and find an appropriate solution.

***Documentation***

***Prototyping***

1. Designing the system layout using JustInMind application.

***System Development***

1. Coding – VSCode/Sublime Text

***System Testing***

1. Finalizing and testing the system before the development.

***Implementation***

1. Knowledge, Ideas, and Concepts are generated through surveys and observation.
2. References of difference study similarly to project

Senior High School Track and Strand Decision Support System

(SHStudent)

**Figure 1. Input process output (IPO)**

The Figure 1, illustrates the conceptual framework demonstrated the input, process and output of the researchers as an overview of the whole process. The input is consisting of the following: (1) Knowledge, Ideas, and Concept are generated through surveys and observation. On the other side, the process being used is through planning, analyzation, documentation, prototyping, system development, system testing and implementation or the agile methodology.

**1.5 SCOPE AND DELIMITATION OF THE STUDY**

**Scope.** SHStudent is a Web-based decision support system with a user-friendly informative, and can access by any users. This system will benefit those incoming senior high school students who are experiencing difficulties in choosing their track and strand.

**Delimitation.** The study will not cover the development of mobile application and it can only be accessed when there is an internet connection.

**1.6 SIGNIFICANCE OF THE STUDY**

The researcher’s really expects that this study will be useful and beneficial to the following individual or groups.

**Students.** This study would help and motivate the incoming Senior High School students to create and carry out their future career plans.

**Researchers.** The study can have a great effect for the researchers. The information gathered will help them in their chosen field in general, as well as expand their skills and knowledge about developing a reliable web-based application.

**Future Researchers.** The study will serve as their reference to develop their own version of the study or project.

**1.7 DEFINITION OF TERMS**

For a better understanding of this study, the following terms are used by the proponent:

**Senior High School (SHS) –** is the last two years of K-12 program.

**Track –** are namely, Academic, Technical-Vocational-Livelihood (TVL), Sports, and Arts and Design.

**Strand –** the Academic track has four strands: Accountancy, Business and Management (ABM); Science, Technology Engineering and Mathematics (STEM); Humanities and Social Sciences (HUMSS); and General Academic Strand (GAS). The Technical-Vocational-Livelihood (TVL) track also has four strands: Home Economics (HE); Information and Communication Technology (ICT); Agri-Fishery Arts; and Industrial Arts.

**Department of Education (DepEd) –** supervises all elementary and secondary education institutions.

**National Career Assessment Examination (NCAE) –** is a test taken by high school students in the Philippines that determines their strengths in different career fields.

**Web-Based Application –** often runs inside a web browser.

**Decision Support System (DSS) –** is a computerized program used to support determinations.

**E-Learning –** is a type of learning conducted digitally via electronic media, typically involving the internet.

**Evaluation –**is a process that critically examines a program.

**Manual Method –** data is processed manually without using any machine.

**CHAPTER II**

**RELATED LITERATURES AND STUDIES**

This chapter states the related literature and related studies that will be a basis of a practical significance in conducting the study.

**2.1 Related Theories**

## Association of the Career Track Choices and Profile of the Respondents

Witko, Bernes, Magnusson and Bardick (2006) studies on senior high school students’ occupational aspirations found out that the interests, skill, personal meaning, challenges and parental support are variables contributory to the occupational aspirations of senior high school students. According to La (2009) on factors influencing the educational and career choices of senior high school students revealed that parent' supports, school structure, gender and grade point average had a significant impact on the educational and career choice of Vietnamese senior high school students. In the same year, Leonard (2009) study on high school students’ course selection decisions in South Carolina found out that parents and teachers are highly influential in the course selection decision. There are many factors that affect students in choosing their track and strand for senior high school and the most influential factor are their parents. Students always seek the support of their parents in every decision they make.

**2.2 Related Literature**

**On the right track: Does senior high school tracking matter?**

The choice of career tracks of the students play a great role in the preparations for the Senior High School for these are associated with career preferences (Abarro, 2016). It is believed that whatever is the learner’s reason on taking the track everything they experienced and learned while in the senior high school will be their armor as they proceed to the higher level or when they join the labor force (Magtibay & Los Baños, 2019).

**Passion- based vs. Practical- based Preference of Strand in Senior High School**

According to Kniveton (2004), he explored the influences or motivations of the students with their career choice. Consequently their career desires which might refer to their passion based perspective on picking a strand and academic limit or past educational accomplishment by being concerned of what they need to achieve through in practical way. Macleod and Chamberlain (2012) say that the data showed the reasons why students wanted a particular degree or strand. These include their knowledge, self-assurance, and awareness of their life's purpose. The senior high school students may have been assisted in selecting their strands from a passion- or practical-based perspective with the presentation of these themes.

According to Holland (1996), there are six personality types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC). Realistic refers to people who likes and enjoy working with objects. Investigative refers to people who have a good thinking skill. Artistic refers to people who are imaginative and creative. Social refers to people who prefer to interact with other people. Enterprising are people who are in a position of leading to achieve goals. Conventional refers to people who prefer to do task that follow instructions. Knowing these types of personalities will be helpful for the students to choose their career. Holland also emphasizes that people who choose to work or study in an environment similar to their personality is more likely to be successful and satisfied in life. Choosing passion and interest in life is a positive choice. You’ll be motivated in doing your job. Students who chose a strand in Senior high school may be enthusiastic about it and well-positioned for future employment.

**Financial Status, Parents Influence, Peer Influence and Self-Choice of Students in Selection of Strand in the Senior High School, Cebu, Philippines**

## According to Pascual (2014), career success of students’ can be best attained if the strand selected is suited to the innate ability and intellect, and personality of students with the proper school guidance for selecting the right career path in senior high school and college. In addition, Students also want to work in such a prestigious job while they are still in secondary school because of the opportunity, and it does affect the students' strand selection but because of lack of financial support it became impossible for them, due to lack of training required for the occupation (Olamide & Olawaiye, 2013). According to Bernardo & Resurreccion (2018), students' life satisfaction was strongly correlated with the anxiety they experience while selecting a strand and it was caused by financial stress.

However, factors such as exploration, advancement, opportunities, exposure, and knowledge which are responsible for choosing a career were highly ranked when selecting a strand. However, choosing a strand was influenced by motivation and security. According to Nyamwange (2016), this indicates that developing an interest in the career necessitates having background knowledge of the field. According to Mandara and Murray (2000), a significant predictor of students' self-esteem (lovability, likability, and self-control) in relation to the subject they choose is their family income.

**2.3 Related Systems**

**Development of a Senior High School Career Decision Tool Based on Social Cognitive Career Theory**

Senior High School Career Decision Tool is a tool that can help junior high school students to choose the appropriate career track in senior high. The study used social cognitive career theory (SCCT) and analytic hierarchy process (AHP). Social cognitive career theory was used to identify the factors to be considered in career decision making, whereas Analytic hierarchy process (AHP) was used to rank the tracks according to these factors. Based on SSCT, the researchers considered different factors that may affect the students’ career decisions, such as self-efficacy, preference of students, preference of the parents or guardian, aptitude, number of schools that offer the career path you want, as well as whether scholarships or financial aid are available. Using these factors as input, the senior high school career strands were compared and ranked using AHP.

Senior high school track and strand support system is more flexible and user friendly than the current senior high school career decision tool, in which students can use it with or without account and the results will display right after collecting and evaluating the student’s answers. For school institutions they can monitor their students and guide or support them on what track and strand they want to pursue. Senior High School Track and Strand Support System assist those incoming senior high school students to know the track that fits for their personality and interest.

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**CHAPTER III**

**METHODOLOGY**

This chapter presented the methods and procedures of how the capstone project was done. It will show off the following: research method, respondents, instrument, requirement analysis, software and hardware requirements, development and testing procedure, implementation plan (infrastructure/deployment).

**3.1 RESEARCH METHODOLOGY**

**3.1.1 RESEARCH METHOD**

The goal of the research methodology is to give an overview of the approaches used in this study. It also specifies the system development life cycle (SDLC) used to create the system.

**3.1.2 RESPONDENTS**

Senior High School Track and Strand Decision Support System (SHStudent) intended for students particularly those Grade 10 students who needs support in choosing their track and strand for senior high school.

**3.1.3 RESEARCH INSTRUMENT**

The researchers used an evaluation form by using Google forms and sent via email or messenger to meet the requirements for the development and efficiency of the study.

As shown below, the computed mean of each criterion was analyzed using a weighted mean and its equivalent:

**Table 1. Likert Scale**

|  |  |  |
| --- | --- | --- |
| **Range** | **Rating** | **Verbal Interpretation** |
| 4.51-5.00 | 5 | Very Satisfied |
| 3.51-4.50 | 4 | Satisfied |
| 2.51-3.50 | 3 | Neutral |
| 1.51-2.50 | 2 | Unsatisfied |
| 1.00-1.50 | 1 | Very Unsatisfied |

The researchers used the Likert Scale (shown above) to assess how acceptable the system was by asking respondents to rate their level of agreement with a given statement on an ordinal scale. The evaluation levels range from very satisfied which is five (5) points, satisfied which is four (4) points, neutral which is three (3) points, unsatisfied which is two (2) points and very unsatisfied which is one (1) point.

**3.2 SOFTWARE DEVELOPMENT METHODOLOGY**

**3.2.1 REQUIREMENT ANALYSIS**

The development of Senior High School Track and Strand Decision Support System (SHStudent) should gathered data from the Grade 10 students or those incoming senior high school regarding the acceptability of web-based application. The feedback of the students will help the researchers to add more ideas in making the web-based application. Evaluation form is needed to determine whether the application is useful, clear, complete and efficient. Evaluation form may also determine whether the application is ambiguous or contradictory, the researchers may resolve these issues by redesigning the application or the web-based application.

**3.2.2 SOFTWARE AND HARDWARE REQUIREMENTS**

Software Requirements

The software applications and requirement used during the development processes and after the application’s system implementation will be elaborate in this section.

1. HTML, CSS, Bootstrap, Javascript, JQuery, PHP

These are the requirements used in developing and constructing the source code of the system.

* Hyperlink Markup Language (HTML) – it used for creating web pages and web applications.
* Cascading Style Sheet – it is a simple design language that will be used intended to simplify the process of making web pages presentable.
* Bootstrap – a front-end development framework that is open source and free to use for building websites and web applications.
* JavaScript – gives web pages interactive elements that engage a user.
* JQuery – an open-source JavaScript framework that makes building and using web apps simpler.
* PHP – is the most popular general-purpose, open-source server-side scripting language used mostly in web development to build dynamic websites and apps.

1. Software Application for Development
   * Sublime Text – is a free cross-platform source code editor that will be used for code editing.
   * Internet Browser – the researchers will be used different web browser to test the web application during and after the development process.
   * Just In Mind – the researchers decided to use this application to design the website so they would have a guide in coding.
   * Canva – the researcher decided to use this application to design the logo.
2. Database
   * XAMPP
   * MySQL

Hardware Requirements

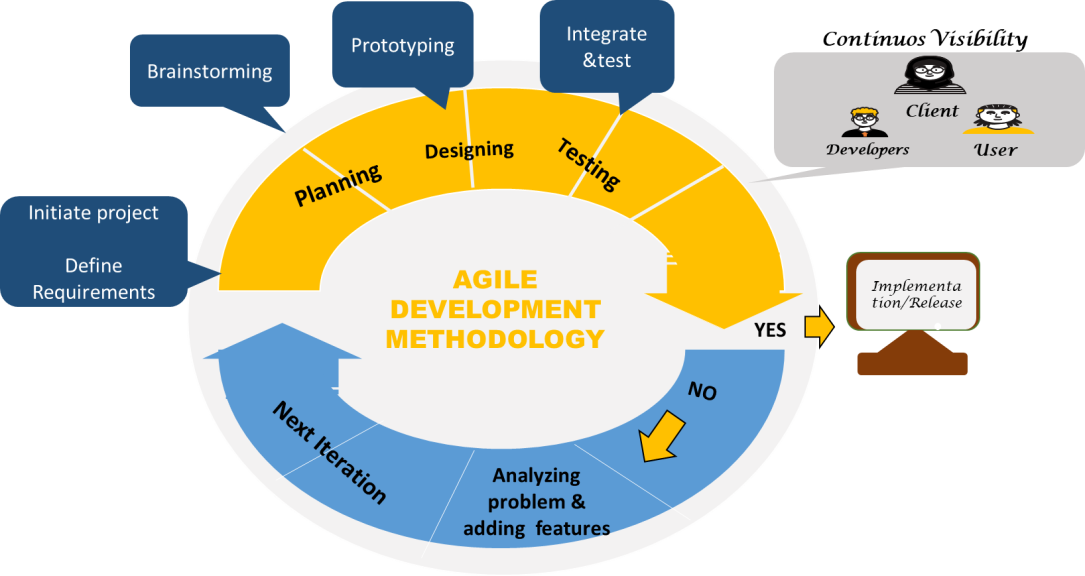
This requirement category includes all of the hardware and requirements used during and after the application's development process.

**Table 2. Hardware Requirements**

|  |  |
| --- | --- |
| Hardware | Recommended |
| Operating System | Any type of OS |
| Random Access Memory (RAM) | At least 2GB or higher. |
| Processor | At least i3 |
| Connection | Ethernet Connection or Wireless Connection (Wi-Fi). |

**3.2.3 DEVELOPMENT AND TESTING PROCEDURE**

Development



**Figure 2. Agile Software Development Method**

Figure 2. shows the project’s SDLC Model which illustrated the processes that is needed to the development of the project. The proponents used the Agile Software Development Method to systematically plan all of the aspects of this study specifically the development phase of the proposed Senior High School Track and Strand Decision Support Systems (SHStudent) System. The Agile Model is more adaptable because it enables requirement changes after the development process has begun.

**3.2.4 IMPLEMENTATION PLAN**

Once the Senior High School Track and Strand Decision Support System (SHStudent) are done in testing phase and it’s fully developed, the project team published it to a hosting service, where users can test it out and become familiar with its capabilities and features with no cost.

**CHAPTER IV**

**RESULTS AND DISCUSSION**

**4.1 SOFTWARE DEVELOPMET TOOLS**

**Sublime Text**

A cross-platform shareware source code editor is called Sublime Text. It supports different types of programming and markup languages.

**Bootstrap**

A free and open source front-end development framework called Bootstrap. It used to build a websites and online applications.

**Internet Browser (Microsoft Edge, Mozilla Firefox, Google Chrome, etc.)**

The web application was tested by the proponents using a variety of web browsers, particularly during the development phase.

**JavaScript**

JavaScript is a dynamic programming language used for creating a lot of applications specially websites.

**Data Analysis**

Five Point Likert Type Attitude Scale

**Table 4. Likert Scale**

|  |  |  |
| --- | --- | --- |
| **Range** | **Rating** | **Verbal Interpretation** |
| 4.51-5.00 | 5 | Very Satisfied |
| 3.51-4.50 | 4 | Satisfied |
| 2.51-3.50 | 3 | Neutral |
| 1.51-2.50 | 2 | Unsatisfied |
| 1.00-1.50 | 1 | Very Unsatisfied |

There are three measurements of the central location widely used in descriptive statistics: the mean of which has its appropriate used in describing the sample or population being studied if three sizes; the weight mean since its more reliable in computing the data and considered to be the most stable measures of central location associated with the interval and ratio data provided that the distribution is normal.

The weight score is with descriptive rating of 5 = “Very Satisfied”, 4 = “Satisfied”, 3 = “Neutral”, 2 = “Unsatisfied” and 1 = “Very Unsatisfied”. The respondents rating on the different criteria will be computed using the mean formula.

The researchers used the statistical mean formula:

**Formula: Hence:**

**M** = 5r + 4r + 3r + 2r + 1r **M** – Mean

**R** **r** – Number of all respondents

**R** – Total number of respondents

Expert’s assessments on the environment of the proposed development of SHStudent website were sought using a five-point Likert Scale interpreted as follows: Very Satisfied (5), Satisfied (4), Neutral (3), Unsatisfied (2) and Very Unsatisfied (1).

**Table 5. Functional Suitability**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **INDICATORS** | **Responses** | | | | | **Mean** | **Response Description** |
| **A. Functional Suitability** | **5** | **4** | **3** | **2** | **1** |  |  |
| 1. **Functional completeness** |  | | | | |  |  |
| 1. The system is capable of giving assessment form. | 55 | 41 | 4 | 0 | 0 | 4.51 | Very Satisfied |
| 1. **Functional correctness** |  |  |  |  |  |  |  |
| 1. The system provides the correct results with the needed degree of precision. | 48 | 46 | 6 | 0 | 0 | 4.42 | Satisfied |
| 1. **Functional appropriateness** | | | | | | | |
| 1. The system display prompt message when a successful or failed action is performed. | 48 | 42 | 9 | 1 | 0 | 4.37 | Satisfied |
| **General weighted mean** |  |  |  |  |  | **4.45** | **Satisfied** |

Legend: 4.51-5.00 Very Satisfied; 3.51-4.50 Satisfied; 2.51-3.50 Neutral; 1.51-2.50 Unsatisfied; 1.00-1.50 Very Unsatisfied

**Table 6. Performance Efficiency**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **INDICATORS** | **Responses** | | | | | **Mean** | **Response Description** |
| **B. Performance Efficiency** | **5** | **4** | **3** | **2** | **1** |  |  |
| 1. **Time behavior** |  |  |  |  |  |  |  |
| 1. The web-based system is usable after being launched in a short period of time from a web browser. | 38 | 52 | 10 | 0 | 0 | 4.28 | Satisfied |
| 1. **Resource utilization** | | | | | | | |
| 1. The system can use appropriate resources such as images and videos for its functions. | 50 | 46 | 4 | 0 | 0 | 4.46 | Satisfied |
| 1. **Capacity** |  |  |  |  |  |  |  |
| 1. The system can store a substantial amount of data and considerable file size to be saved into the database or server’s storage. | 49 | 47 | 4 | 0 | 0 | 4.45 | Satisfied |
| **General weighted mean** |  |  |  |  |  | **4.38** | **Satisfied** |

Legend: 4.51-5.00 Very Satisfied; 3.51-4.50 Satisfied; 2.51-3.50 Neutral; 1.51-2.50 Unsatisfied; 1.00-1.50 Very Unsatisfied

**Table 7. Compatibility**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **INDICATORS** | **Responses** | | | | | **Mean** | **Response Description** |
| **C. Compatibility** | **5** | **4** | **3** | **2** | **1** |  |  |
| 1. **Co-existence** |  | | | | |  |  |
| 1. The web-based system can work normally even when another application aside from the web-browser is running. | 51 | 43 | 6 | 0 | 0 | 4.45 | Satisfied |
| **General weighted mean** |  |  |  |  |  | **4.48** | **Satisfied** |

Legend: 4.51-5.00 Very Satisfied; 3.51-4.50 Satisfied; 2.51-3.50 Neutral; 1.51-2.50 Unsatisfied; 1.00-1.50 Very Unsatisfied

**Table 8. Usability**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **INDICATORS** | **Responses** | | | | | **Mean** | **Response Description** |
| **D. Usability** | **5** | **4** | **3** | **2** | **1** |  |  |
| 1. **Appropriateness recognizability** |  |  |  |  |  |  |  |
| 1. The system can be recognized by the user as a decision support system that focuses on improving decision-making capabilities. | 53 | 44 | 3 | 0 | 0 | 4.50 | Satisfied |
| 1. **Operability** | | | | | | | |
| 1. The system is easy to operate, control and appropriate to use. | 59 | 38 | 3 | 0 | 0 | 4.56 | Very Satisfied |
| 1. **User error protection** | | | | | | | |
| 1. The system protects users against making errors. | 52 | 43 | 5 | 0 | 0 | 4.47 | Satisfied |
| 1. **User interface aesthetics** |  |  |  |  |  |  |  |
| 1. The user interface enables pleasing and satisfying interactions for the user. | 51 | 43 | 6 | 0 | 0 | 4.45 | Satisfied |
| 1. **Accessibility** | | | | | | | |
| 1. The system used appropriate font size, font style, text color, and background to make the content readable. | 55 | 43 | 2 | 0 | 0 | 4.53 | Very Satisfied |
| **General weighted mean** |  |  |  |  |  | **4.51** | **Very Satisfied** |

Legend: 4.51-5.00 Very Satisfied; 3.51-4.50 Satisfied; 2.51-3.50 Neutral; 1.51-2.50 Unsatisfied; 1.00-1.50 Very Unsatisfied

**Table 9. Reliability**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **INDICATORS** | **Responses** | | | | | **Mean** | **Response Description** |
| **E. Reliability** | **5** | **4** | **3** | **2** | **1** |  |  |
| 1. **Maturity** |  |  |  |  |  |  |  |
| 1. The information provided in the system is correct, up-to-date and with consistency. | 52 | 44 | 4 | 0 | 0 | 4.48 | Satisfied |
| 1. **Availability** | | | | | | | |
| 1. The system responses quickly to the user’s selection and action. | 57 | 38 | 5 | 0 | 0 | 4.52 | Very Satisfied |
| 1. **Fault tolerance** | | | | | | | |
| 1. The system catches errors properly and resumes normal operation when detected. | 46 | 46 | 8 | 0 | 0 | 4.38 | Satisfied |
| 1. **Recoverability** |  |  |  |  |  |  |  |
| 1. The system allows recovering forgotten passwords. | 54 | 44 | 2 | 0 | 0 | 4.52 | Very Satisfied |
| **General weighted mean** |  |  |  |  |  | **4.48** | **Satisfied** |

Legend: 4.51-5.00 Very Satisfied; 3.51-4.50 Satisfied; 2.51-3.50 Neutral; 1.51-2.50 Unsatisfied; 1.00-1.50 Very Unsatisfied

**Table 10. Security**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **INDICATORS** | **Responses** | | | | | **Mean** | **Response Description** |
| **F. Security** | **5** | **4** | **3** | **2** | **1** |  |  |
| 1. **Confidentiality** |  |  |  |  |  |  |  |
| 1. The system can protect the user accounts by encrypting their passwords when stored into the database. | 60 | 37 | 3 | 0 | 0 | 4.57 | Very Satisfied |
| 1. **Integrity** | | | | | | | |
| 1. The system requires username and password before accessing the system. (ex. login system) | 61 | 35 | 4 | 0 | 0 | 4.57 | Very Satisfied |
| **General weighted mean** |  |  |  |  |  | **4.56** | **Very Satisfied** |

Legend: 4.51-5.00 Very Satisfied; 3.51-4.50 Satisfied; 2.51-3.50 Neutral; 1.51-2.50 Unsatisfied; 1.00-1.50 Very Unsatisfied

**Table 11. Maintainability**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **INDICATORS** | **Responses** | | | | | **Mean** | **Response Description** |
| **G. Maintainability** | **5** | **4** | **3** | **2** | **1** |  |  |
| 1. **Modularity** |  |  |  |  |  |  |  |
| 1. The system is composed of different modules that will have a minimal effect on each other when changes have been made. | 51 | 41 | 8 | 0 | 0 | 4.43 | Satisfied |
| 1. **Analyzability** | | | | | | | |
| 1. The system provides a dashboard to oversee critical components. | 55 | 41 | 4 | 0 | 0 | 4.51 | Very Satisfied |
| 1. **Modifiability** | | | | | | | |
| 1. The system can be effectively and efficiently modified without introducing defects or degrading existing product quality. | 48 | 46 | 5 | 1 | 0 | 4.41 | Satisfied |
| 1. **Testability** | | | | | | | |
| 1. The system can be tested for functional use. | 54 | 42 | 4 | 0 | 0 | 4.50 | Satisfied |
| **General weighted mean** |  |  |  |  |  | **4.46** | **Satisfied** |

Legend: 4.51-5.00 Very Satisfied; 3.51-4.50 Satisfied; 2.51-3.50 Neutral; 1.51-2.50 Unsatisfied; 1.00-1.50 Very Unsatisfied

**Table 12. Portability**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **INDICATORS** | **Responses** | | | | | **Mean** | **Response Description** |
| **H. Portability** | **5** | **4** | **3** | **2** | **1** |  |  |
| 1. **Adaptability** |  |  |  |  |  |  |  |
| 1. The system’s landing page will work regardless of different devices or screen resolutions. (ex. will work properly even on mobile phone ) | 49 | 48 | 3 | 0 | 0 | 4.46 | Satisfied |
| 1. **Installability** | | | | | | | |
| 1. The user does not require to install the system in different computers as long as there is a web browser installed and an internet connection available. (ex. chrome) | 53 | 43 | 4 | 0 | 0 | 4.49 | Satisfied |
| **General weighted mean** |  |  |  |  |  | **4.48** | **Satisfied** |

Legend: 4.51-5.00 Very Satisfied; 3.51-4.50 Satisfied; 2.51-3.50 Neutral; 1.51-2.50 Unsatisfied; 1.00-1.50 Very Unsatisfied

**Table 13. Summary of weighted mean**

|  |  |  |
| --- | --- | --- |
| **Criteria** | **Response Weighted Mean** | **Response Description** |
| Functional Suitability | 4.45 | Satisfied |
| Performance Efficiency | 4.38 | Satisfied |
| Compatibility | 4.48 | Satisfied |
| Usability | 4.51 | Very Satisfied |
| Reliability | 4.48 | Satisfied |
| Security | 4.56 | Very Satisfied |
| Maintainability | 4.46 | Satisfied |
| Portability | 4.48 | Satisfied |
| **Overall weighted mean** | **4.48** | **Satisfied** |

**CHAPTER V**

**CONCLUSION AND RECOMMENDATIONS**

**5.1 CONCLUSION**

As the final observation, the researchers concluded the SHStudent: Senior High School Track and Strand Decision Support System website are meeting the needs and satisfaction of its users in terms of how it provided information that is quite helpful and assists and support their decision in choosing the right track and strand for Senior High School.

**5.2 RECOMMENDATIONS**

Based on the findings and conclusions, the following improvements can possible be made for more significant benefits for the system;

* Having a mobile Application
* Add a main source/factors for the Assessment form
* Add function where user can print their assessment results.

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