Social Security Educator

Final Project Design Report

Group Members

Prem Patel

Scott Xu

Parth Patel

Advisor

Dr. Sigrid McAfee
Contents
Introduction/Abstract ........................................................................................................ 3
Technical Specifications ................................................................................................. 4
Approach Process ........................................................................................................ 4
Categorization of Sections on Website ........................................................................ 5
   Home ......................................................................................................................... 5
   Basic ......................................................................................................................... 5
   Singles ...................................................................................................................... 6
   Married .................................................................................................................... 7
   Divorced .................................................................................................................. 8
   Widowed .................................................................................................................. 9
      Dependents .......................................................................................................... 10
Functionality .................................................................................................................. 11
   Benefit Calculator .................................................................................................. 11
   Breakeven Calculator ............................................................................................. 13
   Cumulative Amount ............................................................................................... 15
   Widow Computation ............................................................................................. 18
Cost & Sustainability .................................................................................................... 21
   Site Administrator ................................................................................................. 21
   Website Hosting .................................................................................................... 21
Future Work ................................................................................................................ 21
Conclusion .................................................................................................................... 22
Bibliography ............................................................................................................... 22
Breakdown .................................................................................................................... 23
Introduction/Abstract

Social Security retirement benefits are one of the major sources of income in the United States for retirees and elders. Retirement numbers have increased steadily in the past decade, and so, more and more Americans are depending on their Social Security benefits as their retirement income. With the elimination of corporate pensions, it is has become increasingly difficult to maintain one’s standard of living after retirement. However, being educated in the workings of the Social Security system can enable retirees to maximize their benefits and design claiming strategies to support their desired lifestyles.

The purpose of our capstone project was to design a website where the average retiree or soon to be a retiree could come to get a detailed, yet comprehensive explanation of the different rules within the Social Security system and how they would be able to take advantage of certain strategies depending on what category they fall under. The user of our website is provided with a summary of the Social Security rules/regulations for retiree benefits. The three main functions of Social Security Educator are to inform the readers about Social Security retirement benefits, simplify mathematical computation by the inclusion of interactive calculators, and strategies to assist in the determination of when to claim benefits. The calculators are used to determine how much the retiree would receive over their life time from their benefit claiming age. The calculators also inform what percentage of their benefits would be reduced by if they claimed benefits before Full Retirement Age (FRA) or the percentage of increase if they claimed benefits after FRA. The different calculators are, respectively, break-even age, Primary Insurance Amount (PIA) Calculator, and the Cumulative Amount. These calculators depend on different criteria such as current age, claiming age, and their primary insurance amount. For a more detailed explanation about the calculators please refer to the Functionality section. We have also linked the user to calculators that are on the Social Security Website where some of the calculations can be done by the user on the official website. The Social Security Educator website contains specific information pertaining to what category the user may fall under that would apply to them. The categories are Single, Married, Divorced, and Widowed. Using our
website we hope to have educated the common person on the understanding of the Social Security system for them to be able to make a well thought out decision about their benefits.

**Technical Specifications**

Initially when we started designing our website we wanted to use WordPress as the back end system, but we ended up deciding to use HTML5 template. The template was customized to match our requirements that we had in mind. The site was initially hosted on a local computer, but subsequently the files were uploaded to a dummy domain for testing purposes. The dummy domain was hosted by hosting services provided by GoDaddy. The CPanel provided to us by using GoDaddy allowed us to run PHP code without having to install any additional software. Adobe Dreamweaver was used while we were making the website to help making the web designing easy. The website after completion will be hosted on the discretion of Dr. McAfee on a domain she will select.

**Approach Process**

The process during the design phase of the website was to make the website that would target a specific age group - individuals between the ages of 60 to 70. The reason why this age group was chosen is because they are most likely to visit the website since they are near or within the age group that can claim Social Security retirement benefits.

The design of the category pages was done to list the most frequently asked questions first. The user would be able to click on a question and it would jump to the location of the answer. The user has the option to view some answers in more detail if they wish by clicking on “CLICK FOR MORE DETAILS”. We added this feature for people who may want a more detailed discussion of the basic answer provided. In addition, since the Social Security Administration provides topical pdfs on their website, we have included an extra button which is linked to these pdfs.
Categorization of Sections on Website

Home

The home page on the Social Security Educator lists basic information about our capstone project and our advisor. The page also contains some general information about Social Security and why retirees should refer to our site as a knowledge base for them to maximize their benefits and design claiming strategies to support their desired lifestyles.

Figure 1: Home Page

Basic

A retiree wishing to obtain general information about Social Security retirement benefits would go to the basic section of the website. An individual would be able to understand how Social Security determines how much they will receive in benefits and what rules apply to them i.e. if a person below their Full Retirement Age claimed benefits and had earned income, the Earnings Test would apply. The Basic page contains Frequently Asked Questions (FAQ) listed with a hyperlink to jump to that question within the page with the answer available in a simple and in detailed format. Some of the FAQ that are answered on the page include:
Singles

We defined a "singles" applicant as someone who has no dependents and is not a dependent of another, and never married or married less than 10 years. We used this to define a type of applicant because these criteria describe a person who is unable to receive Social Security benefits on someone else's earnings record, and no one else can receive benefits on his or her earnings record. Assuming he or she has accrued enough earnings credits before the age of 62, the singles applicant should be concerned with the following calculations: AIME, PIA, break-even age, the Earnings Test, and the COLA. Our Singles page provides an FAQ to answer common questions about these calculations, as well as a Strategies section to outline a number of available claiming strategies that can be used by applicants of this type. Understanding the rules
we outline will help a singles applicant maximize his or her social security lifetime benefits, as well as choose an appropriate strategy to suit his or her needs.

Married

A “Married” spouse is defined as a person who is currently married and whose marriage is considered valid. The married spouse is eligible to claim spousal benefits under his/her current spouse while they are alive. The married spouse just has to be of age 62 and the spouse whom they are filing under must have started claiming his benefit. The Married page lists different questions that married couples would have as well as some strategies that would be applicable to them. Some of the FAQs that are answered on the page are:

- What are Spousal Benefits?
- What are Qualifications for Claiming Spousal Benefits?
• Are Spousal Benefits Reduced if I Claim Before FRA?
• How are Spousal Benefits Calculated?

Divorced

A “divorced” spouse is defined as the termination of a marital union, the canceling and/or reorganizing of the legal duties and responsibilities of marriage. A divorced spouse’s benefits can be categorized into two categories:

• Divorced Spousal Benefits
• Survivor Divorced Spousal Benefits

To be considered a divorced spousal the ex-spouse should be alive. To be considered a survivor divorce spousal the spouse’s ex-spouse should be deceased. One of the advantages of placing a divorced category on the site is information such as, if a spouse’s former spouse is deceased, the spouse can collect at age 60 as a surviving divorced spouse, but if a spouse is disabled and the former spouse is deceased the spouse can collect at age 50. Some of the FAQ’s for both divorced spousal benefits and survivor divorced spousal benefits that are answered are:
- If the user wants to learn about divorced benefits and would like to take advantage of the benefits there is a section which displays the divorced claiming strategies.
- Does it matter if I remarry?
- Can the file & suspend strategy work if I’m divorced?
- A user can also predict their cumulative amounts if they would like to claim their ex-spouses benefits which is completely legal using cumamount.php

### Acronyms

- FRA - Full Retirement Age
- COLA - Cost of Living Adjustment
- AIME - Adjusted Income
- PIA - Primary Insurance Amount

### Social Security for Divorced

If a marriage ends in divorce, the lower earning spouse will likely lose eligibility for spousal benefits. However, they may be eligible for ex-spousal benefits.

There are two (2) types of benefits, called derivative benefits, that you can potentially claim based on an ex-spouse’s earnings record:
1. Divorced spousal (ex-spousal) benefits (if your ex-spouse is living), or
2. Survivor divorce spousal (ex-spousal) benefits (if your ex-spouse is deceased)

In general, benefits based on the earnings record of an ex-spouse are calculated similar to those of a current spouse (or widow(er)).

If your former spouse is deceased, you can collect at age 60 as a surviving divorced spouse. However, if you are disabled and your former spouse is deceased, you can collect at age 50.

[FAQ](#)

[Divorced Claiming Strategies and Currently Unmarried](#)

**Figure 5: Divorced Page**

### Widowed

A “widowed” is defined as a survivor of an insured worker who is deceased. The widow(er) and the insured worker must have been validly married at the time of his/her passing away. The widow(er) is able to claim one of the two survivor benefits:

- Monthly benefit based on deceased worker’s earning record
- A one-time payment of $255 to the survivor and any dependent children
The widowed page on the website addresses how the widow(er) can receive benefits based on their situation. The widow(er) could possibly have been married more than once and could have multiple deceased spouses which makes which survivor benefits he/she would be qualified for a bit more complicated. The Widowed page addresses situation as such in different examples that are listed within the answers of some of the questions. Some of the FAQs on the page that are answered are:

- At What Age Can I Claim Survivor Benefits?
- What are the General Claiming Rules for Widow(er)?
- What Happens if the Deceased Worker Never Filed for Benefits?
- What Happens if I Claim Survivor Benefits before FRA?

Strategies are also mentioned on the page to enable the widow(er) to maximize their benefit to meet their desired lifestyles.

**Dependents**

The widowed section contains a sub-section for widow(er)s that have children who were dependent on the deceased spouse. This enables the dependents to receive benefits until a certain age. The different categories that falls under dependents are:

- Dependent Family Members
- Dependent Children
- Dependent Parents
Functionality

The Calculators page features two calculators: a Benefits Calculator, and a Breakeven Age Calculator.

Benefit Calculator

The Benefits Calculator is used to calculate the dollar amount of benefit and the percentage of their full retirement benefit that an applicant will receive for claiming at a given age. To calculate this value, it takes two arguments: the user's desired Claiming Age and their Full Retirement Age Benefit (the amount the user would receive each month if he began claiming at age 66). The back-end calculation is done with a JavaScript function, which converts the Claiming Age into months and determines the difference between the desired claiming age and the FRA age. This difference is used to determine whether the applicant wants to claim early or late. Then, based on the sign of the difference, and the magnitude, the calculator returns a percentage of the FRA benefit that the user would receive at the given claiming age. It then
uses this percentage to calculate the exact dollar amount by multiplying it with the given FRA Benefit.

Figure 7: Benefit Calculator Flowchart
Breakeven Calculator

The Breakeven Age Calculator is used to calculate the age at which the user would need to outlive in order for a later Claiming Age to outgrow the amount received from an earlier Claiming Age. It requires the user to input two different Claiming Ages, as well as a Full Retirement Benefit amount (optional, since it doesn't affect the calculation). The back-end calculation is done with a JavaScript function, which converts the two Claiming Ages into months and determines the differences between the desired claiming ages and the FRA age. This difference is used to determine the different percentages of the FRA benefit that the user would receive at the two respective claiming ages. It then uses the differences of the two percentages to determine how long it would take for the second rate to "close the gap" (which is the amount of benefits the user would receive between the two claiming ages). This time is added to the second claiming age to return the Breakeven Age (the age at which the gap would be "closed").
Figure 9: Breakeven Calculator Flowchart

Figure 10: Breakeven Age Calculator
**Cumulative Amount**

The cumulative amount calculator is referenced in many of the frequently asked questions as well as many sections within the website. The main task of this calculator is to predict the cumulative amount of social security benefits one would collect if they lived up to the age of ninety five. Ninety five is the average age expectancy due to technological advances.

When cumulative amount calculator is opened, the page is initialized with three questions:

- **What is the age?**
  - The age 62-70 is chosen because 62 is the age when an applicant can first claim their benefits and 70 is the final age when an applicant can receive maximum benefit.
- **What is the month?**
  - When receiving benefits month is taken into account
- **What is the expected social security benefit at full retirement age?**
  - This is asked because not everyone’s benefit is the same and hence the cumulative amount at the end of age 95 is different for everyone.

Not only can the cumulative amount be viewed every six months but the total is also displayed in a graphical format. We chose to display a graph because it helps the user compare the benefits at different ages.

The back-end runs on an algorithm. When the user enters any of the three variables:

- Year
- Month
- Amount (Benefit)

These variables are passed on to the webpage using SQL. When the user enters a year on the cumulative amount calculator, it is converted to months by multiplying it by twelve and stored into the variable age. The year inputted is converted into months because input 2 is months, and can be added together. Once they are added together they are stored into the variable ageb. The PIA percentage is then calculated because it will calculate the percent the user will receive according to the age they entered. The PIA percentage can range anywhere from 0% - 100%.
Lastly input 3 which is the amount entered by the user is multiplied with the PIA percentage which shows what the user will receive in the first month. Using a for loop and a counter the values are cumulatively added up until the age of 95 or 1140 months. The amounts are displayed on a table format. Using the open-source library the value in the table are read and passed to the graph which displays the values in a graphical format.

Figure 11: Cumulative Amount UML Diagram
Figure 12: Cumulative Amount Calculator (Not Full View of Page)
**Widow Computation**

The widow computation page consists of two questions based on a hierarchy. The first question asked is “Was the deceased spouse at Full Retirement Age?” based on the users input to that question, the next state of hierarchy is called upon and “Was the deceased spouse receiving benefits?” is asked. When referring to Figure 13, we can see that according to the users input on the second question the user is displayed a solution.

The four scenarios are as follows:

1) If the deceased spouse was at FRA and the deceased spouse was receiving benefits then the solution which is displayed is ‘the widow(er)’s benefit will be the amount that the deceased spouse would have received at the time of his death’.

2) If the deceased spouse was at Full Retirement Age and the deceased spouse was not receiving benefits the user is linked to widowamount.php(Figure 15). This calculator basically shows the amount the deceased spouse would have received had they claimed on the date of death which is the amount the widower would receive i.e., the widow(er)’s benefit will be 100% of the deceased spouse’s PIA plus the delayed retirement credits (DRCs), if any, i.e., the amount your deceased spouse would have received if he had filed on the date of death

3) If the deceased spouse was not at Full Retirement Age and the deceased spouse was receiving benefits the user is linked to widowcalc.php. This calculator displays the amount the widower would receive according to the questions answered i.e., If the deceased spouse had claimed benefits before FRA, the widow(er)’s benefit will be the amount the deceased spouse was receiving or 82.5% of the Full Retirement Age benefit, i.e., PIA, whichever is higher

4) If the deceased spouse was not at Full Retirement Age and the deceased spouse was not receiving benefits the solution displayed is ‘The widow(er)’s benefit will be the amount the deceased spouse would have received if they had lived to Full Retirement Age, i.e., 100% of Primary Insurance Amount’
Figure 13: Widow Statement Scenario

Figure 14: Widow PHP Page Flowchart
Figure 15: Widow Calc PHP Page

Figure 16: Widow Amount PHP Page
Cost & Sustainability

Site Administrator

The website requires approximately 2 hours per week for a site administrator to update the content on the website to the latest available information on the Social Security website. Since the site administrator does not need advanced programming skill, a college student with a knowledge of web development could be employed at an hourly rate of 10 to 14 dollars per hour.

Website Hosting

The website needs to be hosted on a server either at Rutgers or on a shared hosting service such as GoDaddy. The total cost for the website to be hosted at Rutgers would be close to zero as the resources are already purchased and only bandwidth would have to be allocated by the University for the website. The hosting at GoDaddy would cost $8 per month or $50 per year if paid annually.

<table>
<thead>
<tr>
<th>Service</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Administrator</td>
<td>$10-14 Per Hour</td>
</tr>
<tr>
<td>Website Hosting</td>
<td>$8 Per Month or $50 Per Year</td>
</tr>
<tr>
<td>Total</td>
<td>$64 Per Month or $750 Per Year</td>
</tr>
</tbody>
</table>

Future Work

If the project were to be continued by another capstone group, we recommend that they browse through the directory of files that should be provided by Dr. McAfee. To update numbers and changes in the Social Security Administration’s rules/regulations for retirement benefits. We strongly encourage that PDFs links to the Social Security Administration be read to gain an understanding of how the Social Security retirement system works. New ideas that can be added on to the website would be to increase its interactivity. We also recommend that issues of content be referred to Dr. McAfee for assistance.
Conclusion

The Social Security Educator, which can be launched by obtaining a domain to be hosted on and a server where it can be hosted, has been set up such that the site files should be uploaded to the default directory and the website loaded automatically on the domain. Users of the website should be able to make an educated decision that will help them make the optimal decision as to when to claim Social Security benefits based on their desired lifestyles and life expectancy.

Bibliography

[1] Dr. Sigrid McAfee

### Breakdown

*Everyone Contributed Equally with the Following Focus*

<table>
<thead>
<tr>
<th></th>
<th>Prem Patel</th>
<th>Parth Patel</th>
<th>Scott Xu</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Website</strong></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>Basic</strong></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Singles</strong></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td><strong>Married</strong></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Divorced</strong></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td><strong>Widowed</strong></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Interactive</strong></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>(cumamount.php)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interactive</strong></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>(widow.php)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interactive</strong></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>(widowcalc.php)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interactive</strong></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>(widowamount.php)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interactive</strong></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>(breakeven.html)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interactive</strong></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>(calculators.html)</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td><strong>Disclaimer</strong></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>(disclaimer.html)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Contact</strong></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>(contact.php)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>