

# APPLICATION OF CASE BASED ALGORITHM IN DESIGN AND DEVELOPMENT OF A DATING APPS

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**ABSTRACT** - Internet plays an important role in our today's society especially for the younger generation. The comparison of online dating to date in the real world is very much in sync regardless of the doubts some who are against online dating may have. Online dating can be compared to a typical interaction a person may have at a bar or an event while trying to pursue someone, it is the same interaction on online dating software's. The only difference with the conventional dating is that except the person of interest is present instead of a picture that is in front of a user on a mobile device or computer. With regard to above observations this work seek to examine the difference between online and offline or traditional form of dating. The objective of this study was to identify the reason why people use online dating software and how Case Based Algorithm factor into online dating. The main aim is to design and develop online dating software that can assist prospective couples in decision making and to discuss the difference in representation between genders on online dating application. The result shows that people will prefer online than the traditional form of dating. The implication of this work were to better understand what the future of social interactions can look like, and how online dating software hinders or enhance how individuals express themselves

## Introduction

For as long as human have recognized the urge to form romantic relationships, they have also recognized that finding appropriate partner can be challenging, and sometimes it is useful to get some help one can easily get. There is no doubt that dating 50 years ago was much different than dating now. While back then we actually had to go out and meet somebody to be seen and it is mostly done face-to-face, in doing so one can encounter some problem like money for transportation, distance cover, convenient time to meet etc. but with the help of this software it is the opposite. Now with the click of a button, our entire lives can instantly go public.

Because online dating software are constantly evolving, the way individuals pursue dating is changing. In such a technology-centered era, online dating software is practically unavoidable and has impacted the dating lives of many. What drives people to use this software and the differences in representation that take place are truly captivating. Essentially, online dating "has fundamentally altered the process of finding romance" (James, 2015).

As a single male living in this era, online dating applications and online dating in general is fascinating. Not only is the whole premise of online dating applications interesting, but the application of the communications theory, the use of case base algorithm in particular, to the subject is compelling. A plethora of research has been done on this theory in relation to mass media (television, radio, etc.), but in comparison little has been done when applying the algorithm to online dating. It is important to understand the effect online dating can have on society because it has become such a prominent way to engage in conversation and social interaction, especially amongst 20-30 year olds who account for the frequent users of online dating applications. Evidence has found that adults who use social media as a way of maintaining relationships use social media more often. There are many different motivations behind why people use social media and online dating, but "qualitative research suggests that users who use dating apps because of physical gratification more frequently meet dating app partner's offline to have casual sex as compared to users who are not motivated to use the app for physical gratification" (Ligtenberg, Sumter, & Vandenbosch, 2016).

So, ultimately this interest in the subject of online dating comes from the fact that it is ever growing and practically unstoppable. It also comes from the fact that I am a part of the millennial generation, aged 18 to about 35, that has been associated with this "hook up culture" (Murphy, 2015). There are not many millennia's today who have not, at one point, participated in online dating or been exposed to online dating. Now, online dating is even more transparent than it was during its early stages of eHarmony and match.com. Statistics has shown that 93% of people in the age range of 18-34 using Smartphone's have patronized one dating application or the other (Sterling, 2016).

## Literature review

Online dating has gone through a big transition in recent years with the rise of mobile device usage, which now accounts for 65% of digital media time (Sterling, 2016). Mobile device usage includes the use of cell phones, iPad's, tablets, and laptop computers while standard online activity usually occurs on a desktop computer that is essentially not mobile. The new realm of online dating is called mobile dating, or online dating applications. It is not the standard profile

Matching people used to access on computers, it is dating that is accessible with a single click on a mobile device. What these applications are doing is making meeting people more convenient and at a faster rate (James, 2015).

With online dating prior to applications the user would have to log on to their computer, access the website, log in to the website, and then check to see if they had any new prospects. Online dating applications, however, send a user a notification every time you get a new match

Skipping three of those steps listed above. The difference in convenience is significant. So, to understand why the use of online dating applications has become the favored mode of dating, the focus of this literature review, and this project, is to understand online dating applications using Case Base Algorithm perspective. This perspective revolves around the use of Case Base Algorithm, which is an algorithm centered on understanding why and how people actively seek out specific media to satisfy specific needs. Based on the findings discovered in the literature, people use online dating applications for a variety of reasons including; attention, satisfaction, and gratification (Ligtenberg, Sumter & Vandenbosch, 2016).

The resources used for this literature review have come from scholarly sources, academic journals, and recent articles published in the media. Specifically, while searching for scholarly articles, I used Chrome and Google Scholar databases. I felt it necessary to use articles recently published online and in magazines because they provided this research with experiments pertaining to online dating applications as well as insights from users on online dating applications. The terms and phrases that were put in to the search engines were Case Base Algorithm, online dating applications and representation. Some of the searches had adequate information in regards to my research, as mentioned above in the methods portion of this chapter. However, some searches did not have specific information that was needed in regards to representation, the Case Base Algorithm, and specific dating applications so made my search words and phrases more specific.

While looking for sources for this research I made sure I look for information that was not bias to my own beliefs so I could gather different points of view. For example, seeking articles written by men about online dating applications so my research was not limited to female-oriented literature. Finding a variety of articles on different types of mobile dating applications, such as Tinder and Bumble, was important to this research because it displays many different views of online dating and shows how representation of an individual can differ on each one specific application. With this refinement I was able to locate a variety of sources that focused specifically on online dating software u

## Result and Discussion

Recent data have shown that online dating “displaced” other venues that were previously integral for romantic connectivity, including the family, school, neighborhoods, and the workplace (Rosenfeld & Thomas, 2012; Smith & Duggan, 2013). However, to date, most of the research in this area has been silent on exactly how these sites facilitate connections. The purpose of this study was to examine how the design and implementation of online dating systems can affect the ways people process information when making decisions about potential romantic partners. Results from the two experiments suggest that online daters value and rely on algorithmic assistance in their decision making, but that they also want to retain the ability to make their own choice among options. Given that all three designs (see-and-screen, algorithm, and blended) exerted effects on daters’ experience of decision making, there appears to be noteworthy variation in the ways in which technology influences relationship formation.

Algorithmic feedback provided by different dating systems also appears to be weighted heavily in relational decision making, albeit in various ways. Results from Study 1 indicated that even though one-on-one algorithmic matching systems reduce daters’ overall feelings of control, the recommendations they make about prospective partners are influential and indirectly heighten daters’ enthusiasm about potential romance by boosting decision-making satisfaction. These findings suggest that relationships that are initiated via an algorithm format (i.e., through the partner recommendations provided by the system) may benefit from the external validation provided by the algorithm. That is, although algorithms reduce feelings of control, the feedback they give may also offer daters a sense of validation for their mate selection decisions.

These results regarding decision making are also consistent with SDT (self-determination theory). As noted above, when too many options are available people become frustrated, and their agency, control, and satisfaction are undermined: “Choice can, when meaningful, facilitate self-determination, especially when it allows one to find that which one can wholeheartedly endorse. But choice can be constructed to do nothing of the sort, instead engendering confusion or fatigue” (Ryan & Deci, 2006). In the case of online dating, limiting choice through algorithmic recommendation can remove some of this confusion or fatigue. Indeed, algorithms may boost agency allowing daters to “wholeheartedly endorse” their decisions of the heart.

### Program Testing

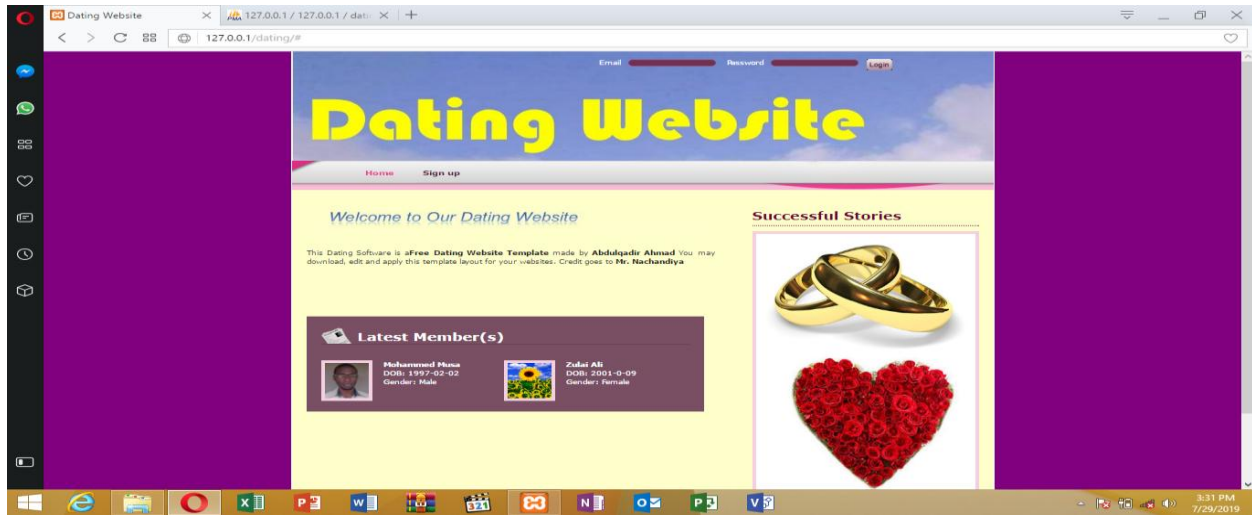


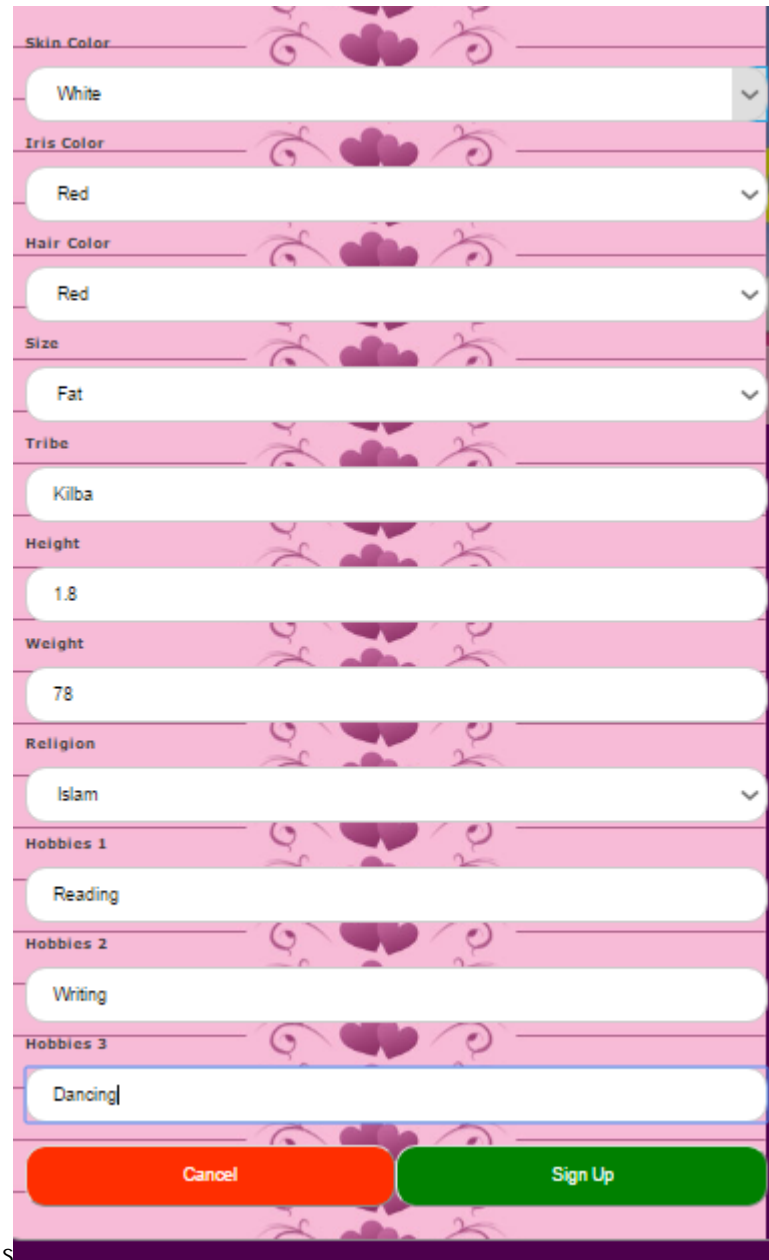
Figure 1: Homepage.

As the name implies, this is the first page to see when visiting the dating portal Website (<http://localhost/dating>). All menu tabs linking to various operational functions of the portal are found on this page.



Figure 2: Signup Page

This page prompts to the user of the system the signup page where he will create his account to the dating site



The image shows a mobile application interface for a dating site. The background is a pink floral pattern. The form consists of several input fields, each with a label above it. The fields are: 'Skin Color' with 'White' selected; 'Iris Color' with 'Red' selected; 'Hair Color' with 'Red' selected; 'Size' with 'Fat' selected; 'Tribe' with 'Kilba' entered; 'Height' with '1.8' entered; 'Weight' with '78' entered; 'Religion' with 'Islam' selected; 'Hobbies 1' with 'Reading' entered; 'Hobbies 2' with 'Writing' entered; and 'Hobbies 3' with 'Dancing' entered. At the bottom, there are two buttons: a red 'Cancel' button and a green 'Sign Up' button.

Figure 3: Details Page

On this page, the user continues from signing up then provide his details specification which may match with other user of the site

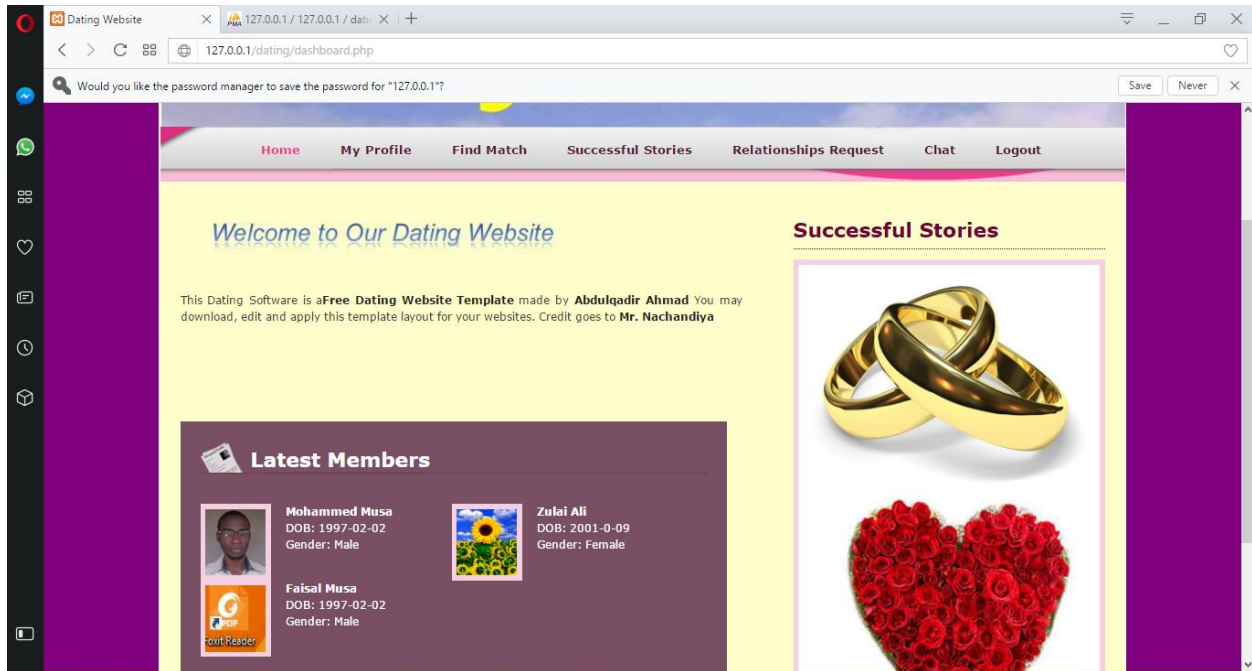


Figure 4: user Dashboard.

This page displays the user with the links to view his profile, find the matching partner, view connected and successful partnership, view if there is new relationship requests, chat with your connected partner and logout.

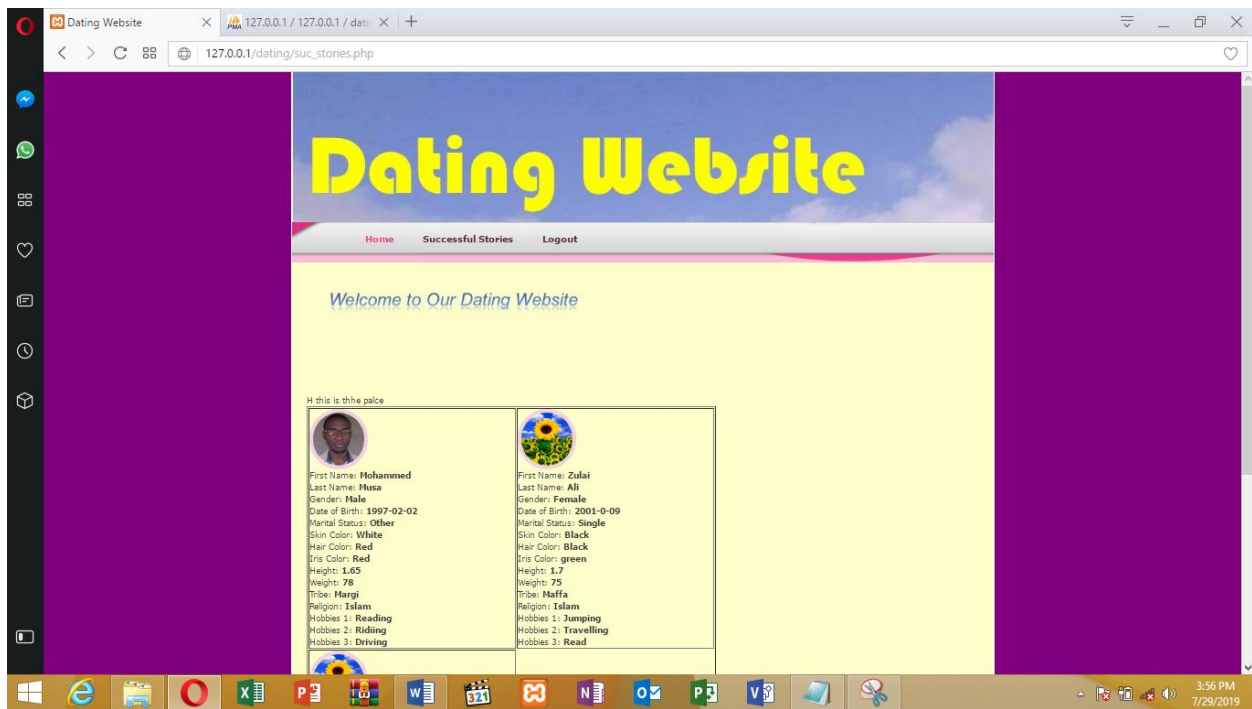


Figure 5: Successful Stories.

This page displays the list of connected and successful partners in relationship.

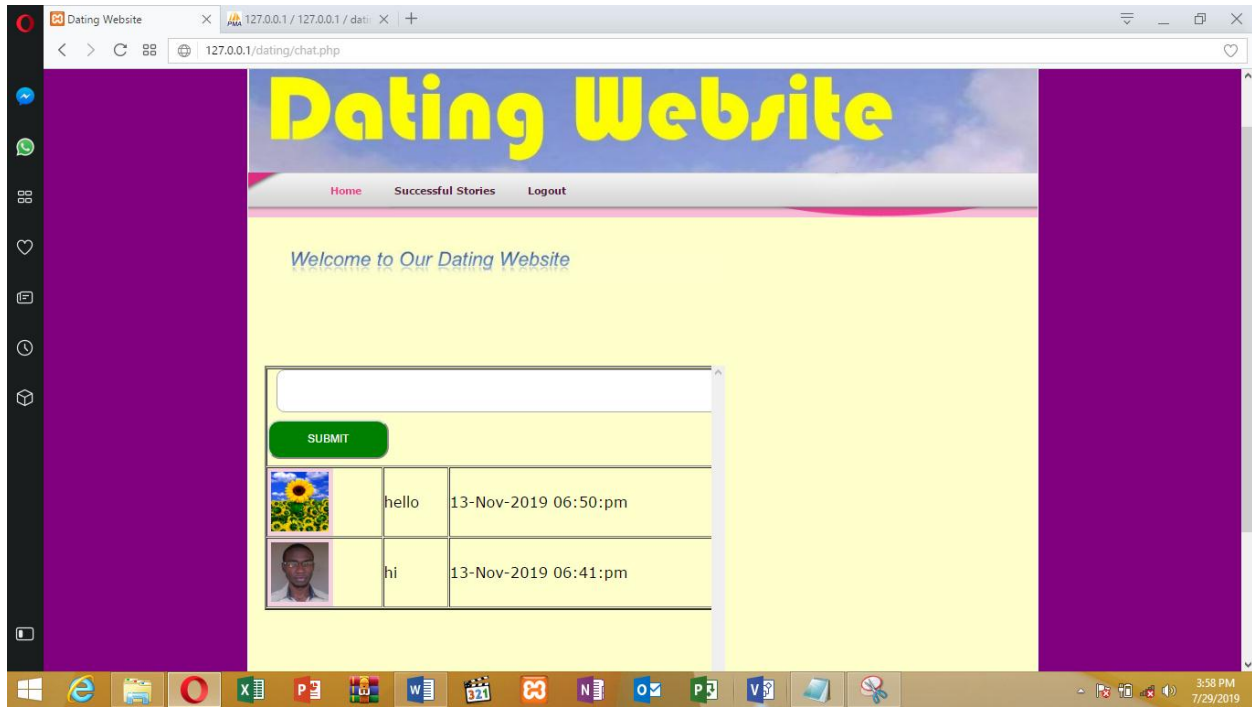


Figure 6: Chat box.

This is where the fruitful conversation takes place. Further appointment and deeper relationship are ripening here.

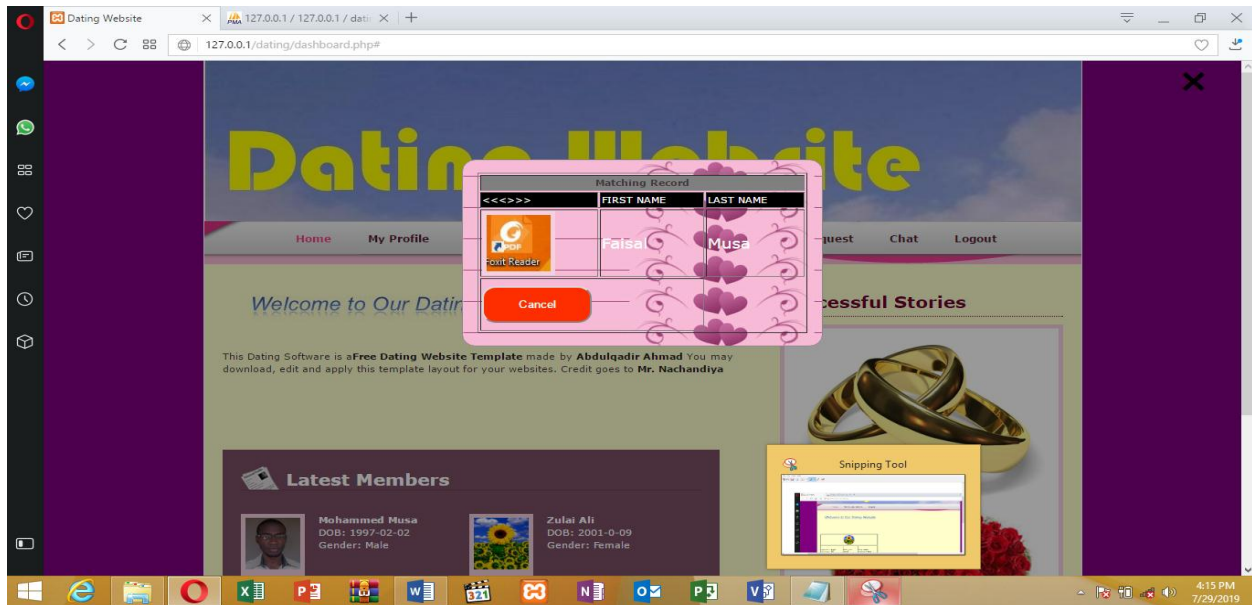


Figure 7: Find Match Page.

Different criteria supplied during signing up to this site are processed and the software do the matching automatically.

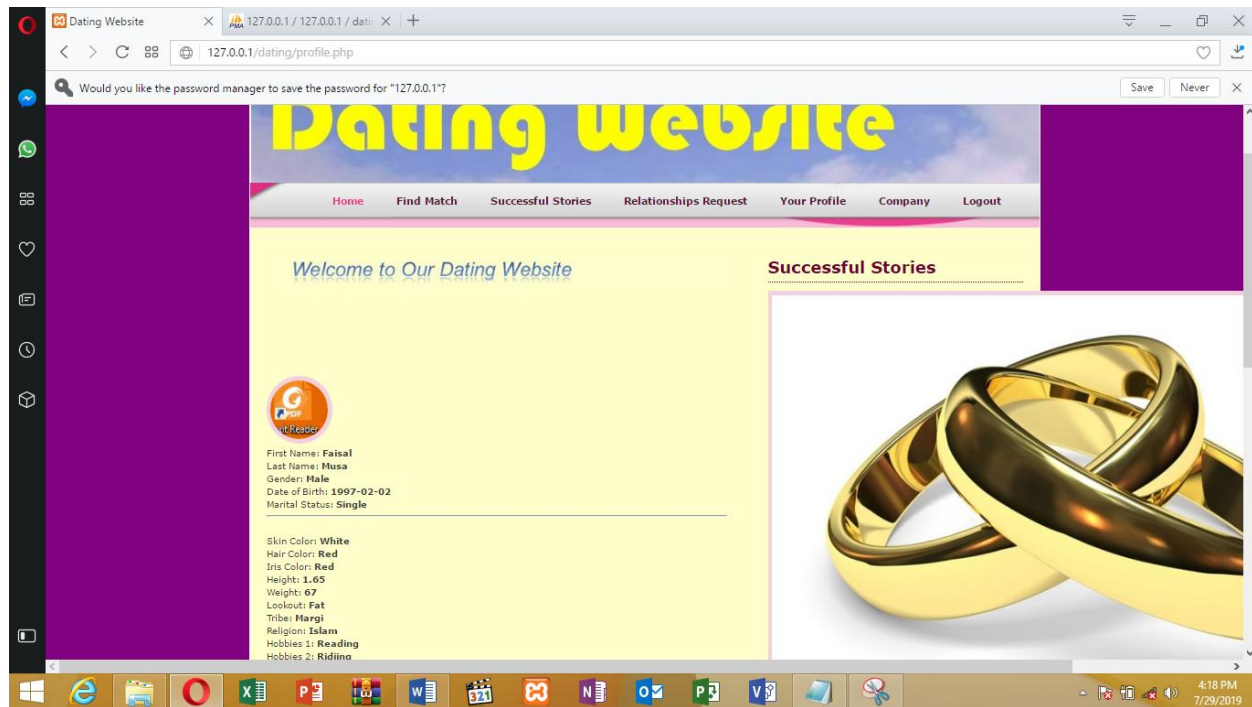


Figure 08 : Match Details.

The selected suggested partner's detail from 4.9 above are displayed in this page. The user will now decide whether to accept or decline the request.

## Conclusion

The biggest contribution of this research to the user is the expansion of motivation as to why people use social media specifically online dating applications. With technology ever evolving, there is no end in sight of online dating applications as they are practically unstoppable and unavoidable. The future is bright for the users who actively pursue relationships on the applications. It is important to understand the impact online dating has on a person social abilities since many users feel most confident hiding behind a cell phone screen. It is impossible to determine how this will impact later generations, but presumably, based on the information gained from this research, the concept of a person dating realm more than they already do. This will impact a variety of things, but mostly it will impact the way in which we communicate with one another.

## Recommendation

Further studies in this area should focus on incorporating more performance factors to be used by the prospective couples. These factors should include types of job, number of children, monthly allowance etc. this will be beneficial in that. It will make it easier to get the best out of those who requested for friendship with you and also the concept of Neural Network or Nearest Neighbor Algorithm should be applied to overcome the limitation of this Case Based Algorithm.

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