Tribhuvan University

Faculty of Humanities and Social Sciences

Nepal Cupid System

A PROJECT PROPOSAL

Submitted to

Department of Computer Application Ratna

RajyaLaxmi Campus

In partial fulfillment of the requirements for the Bachelors in Computer Application

Submitted by:

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Introduction

Matrimony is usually defined as the state of being married. Nepali Matrimony System is a system where people look for their possible partners. In other words, it is a system which helps people to find their best match.

This site will allow the people to fill up their personal bio data and help them to get registered as a candidate. Once a user is done with their registration, the user can look for their match. The user can see various profiles in their screen. If the user swipes right, it means the user is interested in that profile. Likewise, if the user swipes left, it means the user is not interested in that profile. Now if another user too swiped right to that profile who swiped them right, it means a match which means these two people can communicate and get connected.

This way Nepali matrimony system will help to mitigate traditional way of finding their life partners. This will help people to know their partners in the very first phase before the tie a knot. No individual should face the difficulties in finding their soulmate which can be very helpful in the context of our country Nepal as we have a tradition of arrange marriage.

Literature review

In the current situation, arranged marriage is preferred where an individual request a mediator to find their partner. It is a traditional approach of finding partner. In today's world, arrange marriage is less preferred as people are aware of their personal right and equality which has resulted too many divorce cases. We too can see the increase in love marriage in past few years.

Existing matrimonial sites in Nepal are not user friendly, inefficient and unsafe. The registration process of those sites is messy and tedious. When it comes to marriage, it is someone most important moment in life so realizing its importance there are few matrimonial sites established to reduce barriers in finding people's ideal match. Some of the most used Nepali sites are Nepal-matrimonial.com, hamromilan.com, nepalmatrionial.com etc.

According to American psychologist, Barbara de Angelis "Marriage is not a noun, it is a verb. It isn't something you get, it's something you do. It is the way you love your partner every day." From the above statement, we can clearly understand what marriage means to an individual and why it should be with a best match. Research shows that about 90% of the marriage in Nepal is arranged. This arrange marriage these days has resulted to the increase in number of divorce cases.

Problem Statement

We can see many of our brother sister finding it hard to find out their life partners. Arrange marriage is still the most preferred way of choosing partners in the context of Nepal. Marriage is one of the most important decisions to be made by an individual. Recently, we can see few practice of love marriage but still 90% of marriages in Nepal are arranged. There are few matrimonial sites in use but they consist many problems.
They are:

- Other generic similar system are not liberal towards the need of LGTBQ community but the proposed system contains functionality to match partners of any reference.
- Less security for user data
- False/fake users
- Interfaces in existing sites are not friendly

Objective

The above mentioned problem clearly indicates why this system should be developed.

The major objectives of this system are:

- To provide platform for bachelors to find their best match
- To make finding a partner for marriage easy and fast
- To implement algorithm with user compatibility
- To remove dependency from traditional approach
- To make it accessible to anyone

Methodology

Requirement Identification

1. Study of Existing System

As per our study, there are few matrimonial sites which exist with very limited features and is very less efficient method of finding partner. In most of the matrimonial system we studied we found that all the data of the users were displayed in pages and users can contact to anyone. This approach of communication is not suitable as anyone can contact any user despite their consent. It is unreliable and unrealistic for any party involved.

The users recommended that the proposed system should be user friendly, secure, confidential about the user bio and must create positive environment about the love marriage in our society.

2. Requirement Analysis

- Matrimonial system is system that links two individuals, families, cultures, society.
- Today in this technological world it can be the best platform for individual to tie a holy bond of marriage
- It is not liberal towards the LGBTQ community and provides equal preference to anyone

3. Feasibility Analysis

The feasibility study is performed to determine whether this system is viable considering the Technical, Operational, and Economical factors. After going through a feasibility study we can have a clear-cut view of the system's benefits and drawbacks.

   i.   Technical

        The proposed system is planned to develop using Django on top of Python in a backend. On the other hand, Bootstrap on top of HTML/CSS/JS is planned to use as a front-end tool. All the required components to use the system are readily available in the market. Hence the system is technically feasible.

ii. Operational

The system is operationally feasible because of the following reasons. a)
The user is benefited more as he will be able to find his soulmate.

b) The cost of the system is almost negligible when compared to the benefits gained.

iii. Economic

As the necessary software are available in the market free of cost, the investments
are hosting a web app on the server and manpower wages. Ways to make a profit
are providing user premium services and placing ads on the websites. Hence it is
economically feasible.

High Level Design of System

1. Methodology

We will use Waterfall Model to develop this system. In waterfall model, each phase must be completed before next phase can begin and there is no overlapping in the phases. This means, output of previous phase works as input to another phase.
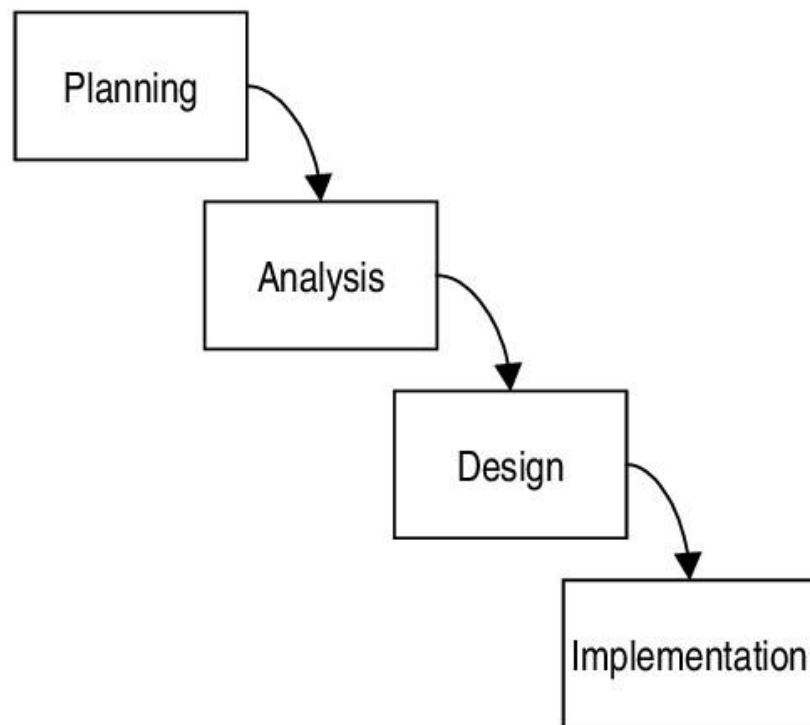

Figure 1 Waterfall model

We will follow each steps (phases) of waterfall model while working in this project.

Planning: In this phase, we will plan about what and how our system will be. We will try to get an idea from the surroundings. Also we will try to gather facts about why do we really need this system.

Analysis: Here, we will analyze similar old projects, currently used systems and what problems people are facing at the moment. With combined and processed facts, we will finalize some requirements for our project. Later we will decide requirements, target users and targeted platforms for our system.

Design: In design phase, we will design database schemas, interface designs, process modeling etc. In short, we will design everything from how our system will look alike to how it'll work. Also, we will design workflows and architectural designs of our system.

Implementation: Finally, we will move to coding, and testing part. We will use previous phases' outputs as input to this phase. That means, we will implement each studies and designs made earlier. Not only that, we will even test our system by preparing different test cases for unit and system testing.
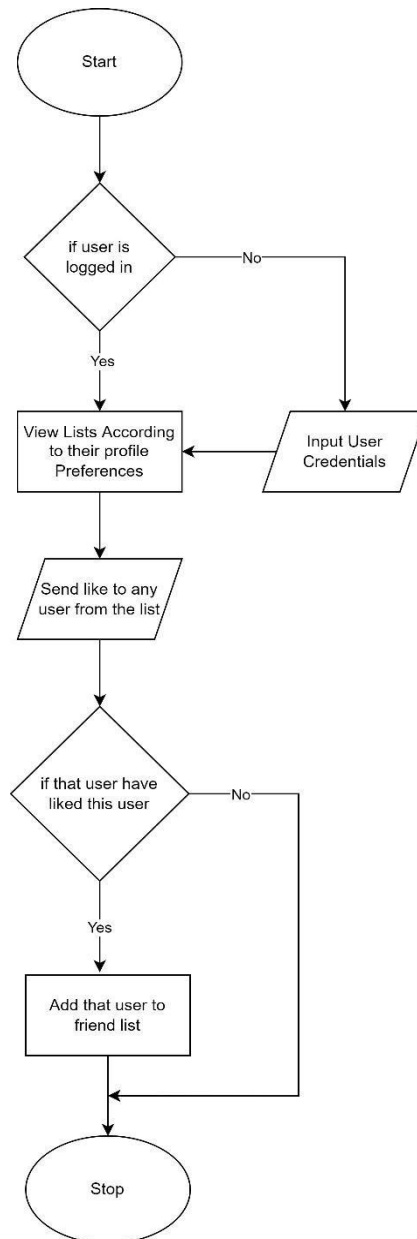
2. Flowchart of the system

Figure 2 System Flow Chart

3. Description of the algorithm

The system is going to have Content-Based Filtering using K Nearest Neighbor. It will follow the following steps to implement the algorithm:

1. Gather user profile data and item attributes (e.g., interests, hobbies).
2. Represent user profiles and item attributes as feature vectors.
3. Calculate the similarity between user profiles and item attributes using K Nearest Neighbor algorithm.
4. Recommend potential matches to users based on the most similar profiles or attributes.

The system will also include Compatibility Matching using Cosine Similarity by following below steps:

1. Collect user profile data and preferences.
2. Represent user profiles and preferences as feature vectors.
3. Compute the cosine similarity between user profiles and preferences using the Cosine Similarity algorithm.
4. Evaluate the compatibility between users based on the similarity scores.

Also, Fake Profile Detection using Logistic Regression will be implemented in the system:

1. Collect a labeled dataset of profiles, including both genuine and fake profiles.
2. Extract relevant features from the profiles (e.g., profile completeness, activity patterns).
3. Train a logistic regression model using the labeled dataset to learn the characteristics of fake profiles.
4. Utilize the trained model to classify new profiles as either genuine or fake based on the extracted features.
5. Flag or remove profiles that are predicted to be fake to ensure a trustworthy user experience on the cupid site.

Gantt chart

Table 1 Gantt chart

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
Planning	■								
Proposal Defence		■							
System Analysis			■						
System Design				■					
Coding					■	■			
Implementation and Testing							■		
Documentation	■	■	■	■	■	■	■	■	■
Final Evaluation									■

The making of the system or the whole project starts from week one and will take approximately nine weeks to complete. The planning begins on the first week and we will propose about our system on second week. The system analysis and design will take place on third and fourth week. Now, on the fifth and sixth week of development the coding, implementation and testing of site is performed. Finally, now the last two weeks consists of documenting and evaluating the final project.

Expected outcome

We aim to develop a user-friendly web app consisting of multiple features like chat box, like, reacts etc.

References

1. "High-end matrimonial portals exclusively for HNIs". *The Economic Times*.