

cuacs

Matching Algorithm Overview



**ARCLIGHT ENTERTAINMENT**

Brian grickites

SHALIN LATHIGRA

BRIAN LEBLANC

AARON RAMOS-LAZETTE

Submitted to:  
Dr. Christine Laurendeau  
COMP 3004 Object-Oriented Software Engineering  
School of Computer Science  
Carleton University

March 5, 2019

1. Re-Introduction to the context of the system
2. Changes made to system model (object model)
3. Purpose of algorithm & main considerations
4. Maps of attributes
5. High level overview of algorithm
6. Explanation of production system
7. Explanation of heuristic
8. Explanation of pruning mechanism
9. Glossary
10. Introduction
11. Object Model
12. Attributes
    1. Attributes
    2. Comparing Attributes
13. Matching Algorithm

Filtering Candidate

Heuristics

Production System

Pruning System

1. Glossary

Introduction

System Model

\*changes have been made\*

\*show diagram\*

**Figure** the current Object Model

Matching Algorithm

\*purpose\*

\*Paired Attributes\* - Note non-physical attributes especially

Figure high level overview of algorithm

\*deep dive into specifics\*

\*describe filter\*

\*Heuristic\* - Prioritize the set of all candidates (remaining after fliter applied) by compatibility factor

\*Filter outdated \*

\*Production System\* - See, based on the current state of the system (given by the node state on the tree) if it should evaluate the subtree rooted at an unexplored node

Glossary

Provides a description of key terms used throughout the document.

|  |  |
| --- | --- |
| **Staff (Member)** | Shelter user with access to the Management account |
| **Client** | Shelter user given a Client profile page by a Staff Member |
| **Animal** | Shelter animal given an Animal profile page by a Staff Member |
| **Animal-Client Match (Match)** | A pairing of a compatible Animal and Client suggested by the ACM Algorithm |
| **Candidate** | A potential but unconfirmed match marked for consideration prior to the execution of the ACM Algorithm. |
| **ACM Algorithm** | Animal Client Matching Algorithm. Suggests an optimized list of compatible Matches. This optimization is determined by a combination of the Search Heuristic, the Production System and the Pruning System. |
|  |  |
| **Production System** | How the algorithm determines what subtrees to evaluate |
| **Search Heuristic** | How the algorithm prioritizes the algorithm’s search paths. |
| **Pruning System** | How the algorithm determines that a particular search path can be ignored. Ignoring a path guarantees that it could not have yeilded a solution better than any previous solutions found. |