CS486C – Senior Capstone Design in Computer Science
Project Description

Project Title: NAZ Animal Welfare Pet Adoption Tool	
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Project Overview:

The Animal Welfare Task Force of Northern Arizona is made up of Second Chance Center for Animals, Coconino Humane Society, Paw Placement and a couple other smaller animal welfare organizations in northern Arizona. Reference:http://azdailysun.com/lifestyles/pets/animal-rescue-flagstaff-animal-welfare-task-force-addresses-companion-animal/article_cf6a56fd-585c-572b-ae11-31fdf3b270df.html

There currently exists multiple, varied, disjoint 'pet finder' web sites (PetFinder, AdoptAPet, PetTango, PetHarbor) that do not serve the needs of the Animal Welfare Task Force of Northern Arizona while typically servicing the needs of smaller groups or even individuals with no inter-agency or inter-group coordination. In addition, people often adopts pets that are simply not ready, often returning the animals to the traumatic situation they might have just escaped. One of the things that sets this apart is the "matchmaker" aspect of it—matching a personality and lifestyle profile with pet and person. It also addresses that many students are not really in a position to adopt an animal, and can steer them toward fostering instead. We can link to existing video and other content online to educate would-be adopting families regarding the time and financial commitment of a puppy, dog, kitten, cat, etc.

Unique to this application is its user-centered approach versus what is most convenient for the animal welfare organization, which usually just uploads profiles and information they think is pertinent. This way, the user puts in their personal data and they get matched based on their info. Another unique feature is that of the "exchange" — where companion animals can be passed from one person to another with oversight of the shelter but no intake. Avoiding that entire traumatic situation and the costs associated for the shelter and adopter would be fantastic.

The goal of this project is a web-site with supporting database that will permit organizations (administrators) specific access to do data entry and analysis, with a user community of smaller agencies, pet adopters, animal behaviorists (experts in pet matching and behaviors), and local government agencies to access both pet- or organization-specific data and trending data. Part of the application will be a screening program for suitability of new pet owners and instructional material provided by the sponsor for first-time pet adopters.

This project will create the NAZ Animal Welfare web site with supporting back-end database that is fully responsive to the needs of the community while running on the widest variety of target machines (desktops, laptops, tablets, SmartPhones) so a wide variety of user groups can participate.

Some specific features of the product include:
- Users can register for an account, and can construct their pet-adoption profile in an easy, graphical fashion, by dragging a number of "widgets" that are pet adoption characteristics defined by our animal behaviorist.
- A pre-defined set of widgets provides key functionalities (e.g. pet home environment, family members, experience with pets, other pets at home, pet owner work hour restrictions, others to be added), but are designed as modular elements with a common structure; future developers could easily add new widgets.

- Use of free, modern development tools such as Apache Cordova to ensure the widest variety of target machine usage with a fully responsive user interface.
- The hardware cost should be minimal. This means designing around, for example, older versions of Android running on an older used device purchased in eBay.

There are, of course, many other possible interesting features that one might explore and possible ways to implement this project. The team will gather up and flesh out requirements in collaboration with the sponsor, and will explore technological options during the fall requirements and design phase.

Knowledge, skills, and expertise required for this project:

- Strong creative instinct required to drive forward and explore an open-ended product concept.
- Web2.0 technologies required to build the core for the project
- Knowledge of programming languages and frameworks associated with building reactive Web2.0 interfaces.
- Knowledge of mobile devices/tablets, as well as capability to create a simple display interface on one.
- Strong desire to perform a civic engagement role that will serve the community.

Equipment Requirements:

No special equipment is required to create the minimal product, based only on a web app and (existing) browsers on desktops and mobile devices.

Software and other Deliverables:

- A fully functioning WebApp the implements the complete functionalities outlined above.
- The WebApp is fully interoperable (Mac vs Windows vs Linux) and desktop, laptop, tablet or SmartPhone
- Complete user manual for non-technical users
- Commercial, economical web-space and URL
- Full capability for user maintenance and content updates of the system
- A strong as-built reporting features for administrators to perform "what if" analysis on data trends
- Professionally documented (and tested) source code, in an online repository (GitHub, Bitbucket), as well as archived and delivered on a thumb drive.