RepuTech

"Reputable technology services"

Description

RepuTech is a sharing economy that connects broken software or hardware owners to reputable technology trouble-shooters. Those that are unable to repair their technology (whether they have warranty or not) are finally able to quickly find reliable services to help them with their tech-related troubles. In addition, those who excel at solving tech-related problems are able to share their services and easily connect with those who need solutions.

RepuTech has three main actors: individuals or groups experienced in troubleshooting who are able to help others and potentially obtain money and/or reputation for their services, individuals looking to repair their technology at competitive prices and the platform that helps the two groups of individuals connect.

Since tech-related troubles can span a large range of different categories, RepuTech takes advantage of each of these categories and provides relevant avenues for connecting groups or individuals. RepuTech takes advantage of the internet and allows individuals to connect from all over the world when dealing with software-related issues, through the use of instant communication channels. On the other hand, for hardware-related issues, RepuTech emphasizes immediate geographical locations in order to create tech support communities and to promote fast and easy provision of tech services.

How it Works

RepuTech allows individuals or groups interested in providing tech services (the "servicers") and individuals requiring tech solutions (the "customers") to connect with each other. Both servicers and customers must register on the system and provide details about themselves. A single account can potentially represent both a servicer and a customer.

Customers can post on the system about their specific issue, posting it under a specific category and detailing it with images, descriptions, a "maximum price" setting (if applicable) and an "urgency" rating. Customers can also post to restrict viewing to certain categories of servicers (e.g. those above a certain reputation rating). Servicers specializing in that category and are in the vicinity of the customer's location (for hardware-related issues) can possibly see customers' posts and can arrange a meeting or chat to discuss the issue. Posts with a higher "urgency" would be promoted higher than other posts, but would also expire earlier.

Servicers can also post on the system to offer their services, and their specializations. There can only be one post of this kind per servicer. If a customer wishes to get their issue fixed privately, they can instead directly message servicers about their issues. Servicers can also maintain a public blog to boost their public image and reputation.

Once an issue is fixed, customers can file ratings or reviews to boost the servicer's reputation. Negative reviews would severely hamper a servicer's reputation, and reports of possible incidents would be forwarded to administrators and would be investigated. This is to protect customers from unreliable servicers.

Customers can "follow" servicers, and higher follower counts for a servicer would also boost their reputation rating. Servicers can also create groups to promote common interests, and the group itself would also have an aggregate reputation rating. Groups can qualify as servicers and can create a group servicer post or blog.

Challenges

Reputation ratings are a large part of RepuTech. Reputable servicers are able to view more customer posts, and can boost their reputation through various means. The problem of falsifying one's reputation must be solved in order for the system to work effectively to benefit customers and servicers fairly. One way to avoid falsification of reputation is to create larger, explicit social networks and to reward varied behaviour. This means that creating blogs or status updates that receive lots of "likes" would "validate" one's reputation rating. Reputation ratings would also decay if too much of one behaviour is repeated over and over. A strong algorithm to calculate reputation is required.

Project

User Authentication: Users will be able to register using their own social media account (i.e. OAUTH) and can connect various social media accounts to their RepuTech account. In addition, users can sign in through a regular username and password form.

User Profile: Users must provide their general location and identity in order to be able to post. Servicers can provide information about their skills and experiences, and their specializations. Administrators would have special profiles, giving them maximum reputation and distinguishing them as potential investigators of incidents.

User Interactions (Commenting): Posts can specifically target certain user groups that fit a certain criteria. Posts of servicers or customers would have commenting systems. There would also be reporting systems (for possible incidents).

Rating: A reputation rating would also appear on the profile. This rating is calculated for servicers who are active on the website, have many followers, give good service at competitive or cheap prices, and actively promote themselves through writing posts or blogs. Customer reviews of posts would directly impact this reputation rating.

Search and Recommendation: Posts would be categorized and tagged by urgency and/or reputation. Searching would be able to be filtered by post category and poster recommendation. Filters on posts would restrict views by location or reputation. Urgent posts would be ranked and would appear before other posts. There would be a smart query system that ranks posts by user personal data. There would also be a "Similar posts" section that shows similar posts when viewing any singular post.

Social Networking: Followers would appear on the profile, and any account can follow any other account. Users can post status updates or create posts that display to their followers. Avenues for directly and privately messaging someone would be available on the profile.

Administrative View: Administrators would be able to see aggregate statistics about posts and would be able to edit user profiles (passwords and adding/updating/deleting users). Administrators would also be able to investigate reports and ban users.

Possible Enhancements

1. Additional features described in the Project (reporting, user banning, blogs, privacy)
2. Responsive design of the website, user-friendly look and use of animations
3. Use of frameworks for the back-end (Preprocessors, Caching, Encryption)
4. Use of frameworks for the front-end (e.g. React, Angular)

Task Allocation

GitHub URL: https://github.com/akshay-nair/RepuTech
Temporary portal: portal.html links to all other pages and will be removed in Phase II

Name: Akshay Nair
CDF: c6nairak
E-mail: akshay.nair@mail.utoronto.ca
Responsibilities:
(1) REST and routing (Node.js, Express)
(2) Unit testing (Mocha, benchmarks)
(3) Documentation (readme, specification)
(4) Back-end organization (Gulp, structure)
(5) Front-end frameworks (React)

Name: Seyed Hossein Fazeli
CDF: c5fazeli
E-mail: hossein_free@yahoo.com
Responsibilities:
(1) Database schema design (PostgreSQL)
(2) Security and authentication (OAUTH)
(3) Browser compatibility checks
(4) Admin, social, recommendations
(5) Sessions (Cookies, Redis, Cache)

Name: Kevin Thich
CDF: g5thichk
E-mail: kevin.thich@mail.utoronto.ca
Responsibilities:
(1) DOM manipulation (Javascript)
(2) Input validations
(3) AJAX and functionality (JSON, jQuery)
(4) Front-end comments & structure
(5) User management (Cookies)

Name: Anson Chen
CDF: g5chen
E-mail: ans.chen@mail.utoronto.ca
Responsibilities:
(1) Front-end colours, branding (CSS3)
(2) Page layouts (HTML5)
(3) Separation into views for back-end
(4) Design of most pages (profile, search)
(5) Responsive design