Anime Categories

$$A_i = \sum_{i}^{n} a_i = 1$$

$where\ A_i\ is\ the\ anime\ scores$
$where\ a\ is\ the\ catagory$
$where\ i\ is\ the\ score$
$where\ n\ is\ the\ num\ of\ catagories$

User preferences

$$U_i = \sum_{i}^{n} u_i = 1$$

$where\ U_i\ is\ the\ user\ scores$
$where\ u\ is\ the\ catagory$
$where\ i\ is\ the\ score$
$where\ n\ is\ the\ num\ of\ catagories$

User Vector

$$U = \{u_i\}_{i=1}^{n}$$

$where\ U\ is\ the\ User\ Vector$
$where\ u\ is\ the\ catagory$
$where\ i\ is\ the\ score$
$where\ n\ is\ the\ num\ of\ catagories$

User preferences adjustments

$$Nu_i = u_i + \alpha \cdot A_i$$

$where\ Nu_i\ is\ the\ new\ User\ score$
$where\ u\ is\ the\ catagory$
$where\ i\ is\ the\ score$
$where\ \alpha\ is\ the\ penalty/reward$

User preferred category

$$\mathrm{C} = \max\ (u_i)$$

$where\ C\ is\ the\ highest\ score$
$where\ u\ is\ the\ catagory$
$where\ i\ is\ the\ score$
$where\ \alpha\ is\ the\ penalty/reward$

Distance between vectors

$$d = d(U|A_i) = \sqrt{\sum_{j=1}^{n} (u_j - a_{ij})^2}$$

$where\ \ d_i\ is\ the\ distance\ in\ relation\ to\ user\ vector\ (U)\ and\ filtered\ Anime\ vectors\ (A_i)$
$where\ u\ is\ user\ catagory$
$where\ a\ is\ anime\ catagory$
$where\ j\ is\ the\ score$
$where\ n\ is\ the\ num\ of\ catagories$

User Suggestions

$$A_s = \min(d)$$

$where\ A_s\ is\ the\ suggested\ anime$
$where\ U\ is\ the\ user\ vector$
$where\ A_i\ is\ the\ Anime\ vector$
$where\ d\ is\ the\ distance$