

Repute U – An Information system to improve moral virtues by community reviews and stories.

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Abstract: Aristotle emphasized the importance of having a good character. A good character can be achieved by possessing admirable character traits, also known as virtues, and by eliminating their extreme ends, known as vices. Facilitating an individual to assess virtues and vices and motivating to follow moral character building activities help individuals develop their moral characters. Repute U, an information system, is designed to meet these goals. This work in progress paper discusses how the Design Science guidelines are being followed in designing the system that contains a model and method. The model assists someone to identify virtues and vices by facilitating self-review as well as to obtain reviews from the surrounding community, referred to as *reviewing community* in this system. The second part of the system guides individuals to develop virtues by presenting moral building stories. This system allows an individual to choose stories that have high influencing power on him/her. The presented stories have more influencing power since they are customized according to the personal preferences. Stories have been categorized into the theme (such as political, religious, historical) in which they were written and the way of presenting them such as drama, poem, films, etc.. By repeatedly performing moral building activities mentioned in these stories, an individual can improve his/her moral character. This improvement can be measured by conducting further reviews. Thus, it can be said that the ultimate aim of this system is to make a happy society by facilitating individuals to become more virtuous persons.

Key words: Community reviews, Virtues, Moral Character, Ethics, Rating, Assessment, Vices, Information system

Introduction

What is the aim of our life? This is a very important question that everyone is trying to answer. However, it can be observed that many people do not have a straightforward answer to this question. According to Aristotle, the aim of every man should be to have a happy life, which can be achieved by having a good character. Besides Aristotle, religious leaders who lived before Aristotle had given a similar message. For example, the fundamental message of Gauthama Buddha is to permanently eradicate one's sufferings. One step in the eradication process is preventing sufferings in this life. Similar teachings can also be found in Hinduism.

After realizing the importance of having morally well-behaved workforce, business organizations, government and non-government organizations and professional bodies have taken a large number of initiatives to improve morally sound workforces. For example, many business organizations spend millions to improve moral character of their employees. This is due to the fact that the negative impact of unethical business practices is severe in business organizations (Solmon ,2003, Gomez ,1992 & Walker ,2005). Furthermore, these authors emphasize the importance of practicing virtues in business organizations. Universities have also taken steps such as offering ethics as a subject, in order to produce not only more knowledgeable graduates but also morally well-behaved graduates.

However, these initiatives have not produced the expected outcomes. According to Dean and Beggs (2006), even though the university students in the USA are taught ethics, the lecturers generally do not believe they can change students' ethical behaviors. Similar

situation is experienced in teaching ethics to computer science students in Sri Lanka. According to the author's personal experience, students become more knowledgeable after following a lecture series on "professional issues" but their moral behavior is not significantly improved. Additionally, Dean and Beggs (2006) state that conceptualizations of ethics by the lecturers do not match their classroom approaches.

One means of responding to the above-mentioned challenges is facilitating individuals to identify the possession of virtues and vices and motivating them to repeatedly follow virtue-building activities. A web-based information system known as Repute U is designed and being developed. This system facilitates the assessment of virtues and vices and also provides a self-directed approach to improve individuals' moral character. The self-directed approach is based on story telling that has a great potential of improving moral characters. The underlying philosophy behind the system is virtue ethics introduced by Aristotle, who made a tremendous contribution to the domain of moral philosophy.

This work-in-progress paper presents the conceptual framework used in designing the system and expert decision taken in the designing process. The next section discusses the theoretical background of the system including the developed conceptual framework. This discussion is followed by Design Science guidelines for developing information system and how the seven guidelines given in Design Science have been followed in this research. The concluding section presents an overall discussion of the system and possible improvements in further research. Throughout this paper, the terms requester and individual are used interchangeably and also assessment and review are used interchangeably.

Theoretical background

This section contains two parts. The first part provides a brief introduction to virtue ethics and the second part discusses the Design Science paradigm. The guidelines provided in this paradigm were followed to achieve the research rigor.

Among many ethical paradigms, most influencing paradigms are deontological (duty based) ethics, consequentialism (such as utilitarianism) ethics, and teleological (end-oriented) ethics. One of the teleological ethical theories is the Aristotelian virtues, also known as Nicomachean Ethics. According to Aristotle, there are two types of virtues- intellectual and moral. Explaining the difference between these two, Ross (1980) states

"intellectual virtue in the main owes both its birth and its growth to teaching (for which reason it requires experience and time), while moral virtue comes about as a result of habit. (p. 13)"

Defining Aristotelian moral virtues, Garrett (2005) states that "...a moral virtue is a disposition to act as the morally reasonable person would act (=according to reason) and to feel emotions and desires appropriately." Another definition given by Beauchamp and Childress (1994) "A virtue is a trait of character that is socially valued and a moral virtue is a trait that is morally valued" (p.63).

Murphy (1999) identified and listed six dimensions, which distinguish virtue ethics from other ethical theories. As mentioned in Murphy (1999), they are:

1. The focus in virtue ethics is on the person and his character traits, not on a particular decision or principle;
2. Virtues are good habits and are learned by practicing;
3. Appropriate virtues are discovered by witnessing and imitating behavior; to become virtuous, one must see others practicing good habits;
4. Persons seek the 'ethic of the mean';
5. Virtues should be examined within a 'community' setting; and

6. Aspirations are key motives in virtue ethics.

As mentioned in the introductory section, the purpose of our life is supposed to be doing something good for us. This ultimate supreme good is known as happiness. Rose (1980) states "[h]appiness then is the best, noblest, and most pleasant thing in the world". Only a virtuous person can become happy. Thomson and Tredennick (1966) explaining the relationship between virtues and happiness, define happy man as "... one who is active in accordance with complete virtue, and who is adequately furnished with external goods, and that not for some unspecified period but throughout a complete life". Interpreting Aristotle's writing, Quinn (2013) states "...deriving pleasure from a virtuous act is a sign that you have acquired that virtue" (p. 417).

However, it may not be an easy task for an individual to make a self-assessment of the possession of a virtue since many factors contribute to one's happiness. For example, obtaining material wealth also brings a short-term pleasure (which is not considered as true happiness). Thus, an individual is not in a position to determine whether one's happiness is due to virtues or not. Irwin's (1985) translation of Aristotle's text, states "[individuals] disagree about what happiness is, and the many do not give the same answer as the wise." Additionally, a person himself may not be aware of what exactly a virtue means and its boundaries.

Therefore, there is a question on how to identify one's possession of virtues. Absence of a proper idea about the possession of vices hinders an individual from being a good and happy individual. Having proper assessment of one's virtues and vices makes it possible for having a good character and being happy by taking appropriate actions to develop virtues and eliminate vices. The conceptual framework addresses this issue by allowing an individual to make a self-assessment and also to obtain an assessment from the surrounding community. The next question is what these virtues are and whether they are universally applicable. Answering to the universal applicability of virtues, Murphy (1999) describes two types of virtues- one is universal and the other one is domestic. There is no clear answer to the question of what virtues are. Taking from Aristotle's text, Thompson (1955) gives a list of virtues and vices (given in Table 1). These virtues are accused of being more towards a particular class of people lived in Aristotle's period. As shown in the Table 2, Rosenstand (2003) provides another set of virtues and vices. Some scholars present virtues without corresponding vices. For example, Rachels (2003) provides a list of virtues as shown in Table 3. Others who attempted to identify virtues are Shanahan and Hyman (2003), Reidenbach and Robin (1990), Chun (2003), Murpay (1999) and Racelis (2013).

Individuals take and follow virtues at different levels. Ross (1980) identifies four types of persons. A moderate person knows what virtues are and do virtuous activities without any appetites against doing virtuous activities. The second kind of person knows and does the same thing but by overcoming the strong appetites against taking virtuous activities. The third kind of person does not do the moderate thing due to the strong appetites against taking virtuous activities and the last kind of person also known as the indulgent person has no desire to do the right thing.

Conceptual Framework

Meara et al., (1996) explain how virtue ethics contribute to make professional judgments and take appropriate actions by individuals. Furthermore, Murphy (1999) states that "[t]o become virtuous, one must see others practicing good habits"(p. 109).

From these premises, it can be derived that the manner in which professional judgments are made and appropriateness of actions taken can be used as a proxy to review the possession of the virtues of an individual. Since the surrounding community is in a better position to judge the soundness of the decisions made and actions taken by an individual, the members in the surrounding community can make an assessment of the possession of virtues of that individual. Quninn (2013) states some virtues are biased to some people. The fifth premises of Murphy listed above (Page 3) also supports the idea of surrounding community by stating "...virtues should be examined with in community setting"(p. 109). Racelis's (2013) study is one example that attempts to identify virtues of managers by asking subordinates to list the desired virtues of their managers.

As Ross (1980) mentioned in categorizing the types of people that one's appetites has a strong relationship to one's virtues. Therefore, one's appetites can also be taken as a proxy to determine the possession of virtues. However, only an individual can review his appetites. In this aspect, an individual is at the best position to review his possession of virtues. Thus, the system facilitates an individual to make a self-review of the possession of virtues.

Since there is no universally accepted list of virtues, lists of virtues from several authors have been identified. They are shown in Tables 1 and 2. Additional list of virtues given by Rachels (2003) does not contain vices (Table 3). Therefore, two types of virtues are presented. One set of virtues with corresponding vices (Table 1 and 2) and the other set of virtues without vices. Table 4 lists the second set of virtues after eliminating items shown in the first two tables.

The second component of this system is a method to develop a moral character. This method is based on the concept of story telling. Telling stories to develop moral character can be seen in every part of the world and has a very long history (Tappan & Brown, 1989). Highlighting the importance of storytelling in moral development (Vitz, 1990) proposes in a paper that "...narratives (stories) are a central factor in a person's moral development." Stories facilitate moral character building in at least two ways. Carefully examining good stories, it is possible to identify virtue-building activities. Moral character can be developed by repeatedly conducting these activities with moral sensitivity. This sensitivity can also be developed by carefully examining characters in good stories and understanding the motives behind the actions and feelings of the actors in these stories (Garrett ,2005).

As discussed above, story telling is regarded as one of the powerful weapons in developing virtues. However, the full potential of story telling is not well studied (Tappan & Brown, 1989) . Therefore, it was decided to study how to present stories in a more attractive and influencing manner. In order to present stories in that manner, stories are categorized and presented according to personal preferences of individuals. The underlying proposition of the categorization scheme is similar to the concept used in the target marketing where advertisements are presented based on the preferences of the customers. Advertisements shown in Gmail services can be taken as examples. In this system, the preference of an individual about the way of presenting stories (such as novels, movies, drama, songs etc.) and the themes of the stories (political, cultural, religious, scientific) are taken into account in categorizing stories.

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Table 1: Virtues introduced by Aristotle *Note*. Reprinted from “The Ethics of Aristotle” translated by J.A.K. Tomson 1953, Penguin Classics, p. 104.

Sphere of Action or Feeling	Excess	Mean	Deficiency
Fear and Confidence	Rashness	Courage	Cowardice
Pleasure and Pain	Licentiousness/ Self-indulgence	Temperance	Insensibility
Getting and Spending (minor)	Prodigality	Liberality	liberality/Meanness
Getting and Spending (major)	Vulgarity/Tastelessness	Magnificence	Pettiness/Niggardliness
Honour and Dishonour (major)	Vanity	Magnanimity	Pusillanimity
Honour and Dishonour (minor)	Ambition/empty vanity	Proper ambition/pride	Unambitiousness/ undue humility
Anger	Irascibility	Patience/Good temper	Lack of spirit/unirascibility
Self-expression	Boastfulness	Truthfulness	Understatement/mock modesty
Conversation	Buffoonery	Wittiness	Boorishness
Social Conduct	Obsequiousness	Friendliness	Cantankerousness
Shame	Shyness	Modesty	Shamelessness
Indignation	Envy	Righteous indignation	Malicious enjoyment/Spitefulness

Table 2: Rosenstand's list of virtues *Note*. Reprinted from “The Moral of the Story 4th ed.” by N. Rosenstand 2003, Mayfield Publishing Co ,U.S., p. 379..

Excess (vice)	Mean (Virtue)	Deficit (vice)
Uncritical	Loyal	Disloyal
Passive	Patient	Impatient
Intrusive/Lacks judgement	Compassionate	Ungrateful
Takes everything too seriously	Responsible	Irresponsible
Stubborn	Persevering	Quitter
Rude	Honest	Lying
Strict	Sets rules with exceptions	Lenient
Worries all the time	Aware of real concerns	Don't worry, be happy
Drives too fast	Goes with traffic at speed limit	Drives too slowly
Studies too hard	Studies and passes test	Studies too little

Table 3: Rachels's virtues. *Note.* Reprinted from “The elements of moral philosophy 4th ed.” by Rachels, J 2003, MNew York: McGraw-Hill

Benevolence	courteousness	industriousness
Civility	dependability	justice
Compassion	fairness	loyalty
Conscientiousness	friendliness	moderation
Cooperativeness	generosity	reasonableness
Courage	honesty	self-confidence
self-control	self-discipline	self-reliance
Tactfulness	thoughtfulness	tolerance

Table 4: Virtues used in the second stage.

civility	Prudence	dependability
conscientiousness	reasonableness	cooperativeness
self-reliance		

Design Science Guidelines

The entire research process is guided by the seven Design Science guidelines presented by Hevner *et al* (2004) for developing innovative artifacts. These artifacts may be constructs, models, methods, and instantiations. Design Science provides a framework for a researcher to apply existing body of knowledge and kernel theories. These knowledge and theories distinguish Design Science from routine design. Design Science is widely applied in developing information systems where one or more of the following challenges are met: a) unclear problem or environment; b) uncertainty of the performance of the artifact; c) ambiguity of the requirements; and d) involvement of complex human interaction. Information systems researchers prefer Design Science since it provides freedom to apply their experience, creativity, innovativeness, and intuition in solving problems. The design science process involves a design process and evaluation process of the designed artifact. Once the design artifact is built up to a certain level, the artifact is evaluated and feedback is provided to further develop the artifact and also to improve the design process. This process is iterated until the final product is built. Once the system is instantiated, its interplay with individuals in a complex environment can be examined by using Behavioral Science principles.

As discussed in the previous paragraph, appropriateness of applying Design Science principles to solve the given problem and the freedom given to the researcher motivated the choice of Design Science guidelines in building this system. The following seven sub-sections describe how the seven Design Science guidelines were applied in the designing process.

- **Guideline 1- Design as an Artifact**

This section provides an overview of the system. This also covers the operational mechanism of the system. The conceptual framework of the system is given at the literature review section.

An artifact can be a construct, a model, a method, or an instantiation (Hevner et al, 2004). According to them, a model represents a real world problem and the solution space whereas a method represents a set of activities to be followed to obtain the end result. In this research, the system can be considered as a model since it models the virtues of individuals. Additionally, it can be considered as method since it prescribes a set of activities to develop one's virtues.

There are two actors in the system- '*requester*' and '*reviewer*'. Additionally, a particular group of reviewers are called the '*reviewing community*'. Requester is an individual who requests his/her close associates to make a review of the virtues and vices of the requester. Reviewer is a member of a close surrounding community of the requester. Reviewing community is a group of reviewers who have a good understanding of the virtues and vices of the requester.

Both the requester and reviewer must become a member of this system. Membership can be obtained by simply signing-up to the system(user name, password, and a valid email address are the requirements). Before registering a user, the authenticity of the email address is verified.

The reviewing process contains two steps. In the first step, virtues and corresponding vices from Tables 1 and 2 are presented. As shown in Figure 1, virtues are presented in the middle column and vices are presented at the two ends. Deficiency is on the left and excess is on the right. Likert scale based stars are given for rating. The middle star represents the virtue. The five stars on the left and five stars of the right of a virtue are presented. The stars on both directions represent the level of the possession of virtue and vices. The range varies from 0 to 5 with granularity of 0.5. In the second step, a list of virtues are presented. One side rating mechanism is given for these virtues since these virtues do not have vices or corresponding vices are yet to be identified. Rating these virtues indicates the closeness or distance of one's virtue from the standard.



Figure 1: An example of a virtue rating interface.

After logging in to the system, a requester can make a self review as mentioned in the preceding paragraph, create one or more reviewing communities, and send requests to the created reviewing communities. The requester has full discretion in creating communities. A community is created by simply selecting intended reviewers' email addresses to the reviewing community's email address group. This is done by the requestor. Once the reviewers agreed to be a member of the reviewing community, the reviewing community is set up and ready to review the requester. Multiple communities can be formed and one reviewer can be assigned to many communities. Once a community is built, the requester can send a request to a community. This request goes to every reviewer in that community. Either the requestor or the system can send reminders. Once an invitation is received, a reviewer can

start the reviewing process. The reviewing process is the same as the above-mentioned one.

Once the reviewing process is completed, averages for each virtue is given to the requester. For each review, there may be three indicators; one presenting the average deficiency, one presenting the average excess, and one for the number of selected virtues. Then the requester can compare these three indicators with the self-review. After making the comparison, the requester can choose virtues that need to be developed.

Once the requester selects a particular virtue to be developed in the identification phrase, the requester is directed to virtue development phrase. First, in order to identify the preferences of the requester, he/she is asked to choose his preferred theme (such as political stories, fantasy stories, religious stories etc..) from a given list and the preferred presentation format (such as drama, novel, song, movie etc.). Based on these preferences, the requester is given a list of stories that are capable of developing the selected virtue. Additionally, a short description of the story together with the reference to that story is given.

- **Guideline 2- Problem Relevance**

This system presents a novel moral character development approach based on Aristotelian ethics since existing attempts have not shown good results in terms of building moral character. The importance of addressing this problem was further discussed in the introductory section.

In terms of rating, there are similar systems such as *www.ratemyprofessors.com* and *www.thatsmyboss.com*. These systems review external characteristics and performance of individuals in given settings such as being a professor or boss. On the other hand, this system focuses on the internal aspect of individuals in general. In other words, this system is about general characteristics of an individual. Furthermore, this system facilitates a requester to select the members in the reviewing community, send invitations to reviewers, and compare self-review with community reviews.

- **Guideline 3- Design Evaluation**

The utility, quality, and efficacy of the system can be examined by conducting controlled experiments once the system is developed. At this stage, a descriptive discussion on these aspects is given in the literature review section, particularly in the conceptual framework section, and the 'Design as a Search Process' section. Furthermore, identified metrics to measure various aspects of the system are given below.

The most important one is an overall efficacy metric that measures the level of improvement of an individuals' moral character after using this system. This can be measured by taking reviews at two intervals. Other possible measures are the completeness and usefulness of given virtues, the completeness and quality of the given stories, and effectiveness of the story categorization scheme.

The effectiveness of making a self-review and community reviews, the impact on requester once the community review result is presented to the requester, and the correlation between two types of reviews have to be examined by using behavioral science theories. According to Heavener et al (2004), design science and behavioral science are two side of the same coin.

- **Guideline 4- Research Contributions**

In addition to the information system, other contributions are the repository of stories, story categorization scheme, and compilation of virtues. Additionally, in the preceding section, several challenges were presented to behavioral scientists.

Very little work is done in the domain of virtue ethics. According to Racelis (2013) virtue ethics neither progressed theoretically nor transmitted its practical contribution. Murphy (1999) claims that virtue ethics is highly neglected in marketing ethics. Drawing attention to highly neglected Nicomachean ethics by building an information system based on

Nicomachean ethics is a great contribution to the field and also community.

- **Guideline 5- Research Rigor**

Research rigor is achieved by following a proper research methodology. Furthermore, as discussed in the previous sections, using well-established theories and foundation distinguish the development process of this system from routine design activity. All the assumptions are clearly mentioned in order to maintain research rigor.

- **Guideline 6- Design as a Search Process**

Following the artifact development process in the Design Science, this artifact building process was initiated with a simple conceptual model. This conceptual model is developed over a period of time based on feedback received in the brainstorming sessions. This section discusses decisions taken in the searching process for designing a better system.

In categorizing stories, firstly, the stories that have potential of moral development are identified. Then, the respective virtues in these stories are identified and categorized according to the identified virtues. One story may develop one or more virtues and one virtue may be developed by several stories. Thereafter, these stories are categorized based on theme on which they were written. Some of the identified themes are religious stories, personal characters in biographies and autobiographies, fictions, personal experiences, political, cultural, and historical etc.. These stories can also be further divided into many sub-themes. For example, religious stories can be divided based on religion, personal characters can be identified in terms of political leaders, religious leaders, scholars, artists, and sportsperson etc.. Furthermore, presenting stories have many forms such as books, dramas, short movies, classic films, movies, fables, songs, dialogues, poems, plays, documentary, and article etc.. Taking the way of presenting stories into account, the selected stories are further categorized. In summary, stories are categorized into virtues. Stories on one virtue are further categorized according to the form of presenting stories and themes in which the stories were written. Several challenging situations arose in making decisions due to the fact that some decisions have pros and cons. One such challenge was deciding whether the requester should be allowed to choose the members in the reviewing communities. The plus point is that the requester can choose reviewers who can provide an objective review of the requester. The negative aspect of this decision is that the requester may be biased in selecting the members for the reviewing community. For example, the requester may choose members who are very loyal to the requester. One of the ways to eliminate this limitation is making it compulsory to include every member in a particular reviewing community. For example, a student has several surrounding communities such as parents and relatives, classmates in school and private classes, sport clubs, neighboring friends, school teachers etc. and in the case of getting reviews from classmates, it can be made compulsory to include every student in the class in the reviewing community.

Another expert decision taken is allowing the reviewing community members to make anonymous reviews. When anonymous reviews are allowed, the reviewers are more comfortable in making objective reviews. Gavish and Gerdes (1998) state that anonymous communication allows making comments without fear, embarrassment, and reprisal. The negative aspect is that the reviewers may not do a good job since there is no way to verify the quality of their reviews.

An option is given to the reviewer to decide whether to make their reviews anonymous or not. This also has its own pros and cons. The advantage of making open reviews (not anonymous reviews) is that the requester can get to know how the particular reviewer in the reviewing community has reviewed the requester. This is important since some reviewers are capable of making objective and fair judgments. This also gives recognition to good reviewers. The negative aspect is that the requester could ask or force some reviewers not to make anonymous reviews. Sometimes, it may be a threat. In this case, the reviewers are

compelled to make open reviews where the requester can identify the reviewer. Hence, these reviews might not reflect the true picture.

Anonymity works only when the requester sends invitations to a considerable number of potential reviewers. Suppose only one reviewer is invited, the identity of the reviewer is revealed even the reviewer opt for anonymity. Therefore, before making a review, the reviewer must judge the level of identity protection given by the system. This can be identified by taking the number of authentic reviewers in the system.

- **Guideline 7- Communication of Research**

This guideline is about disseminating the research contribution. At this stage, the research contribution is the information system to assess the virtues and the conceptual framework. Additionally, this paper presents several propositions that could be studied by behavioral scientists. It can be said that conducting brainstorming sessions and asking for feedback on the draft version of this paper are two means of disseminating the outcome of this research.

Discussion

This paper presents a conceptual framework that is being used in designing and developing an information system to facilitate moral character development. An improved moral character leads to a happy life. This framework consists of a model to represent individuals' virtues and vices and a method to make individuals aware of virtue building activities and to improve moral sensitivity by presenting moral building stories in a more personalized manner. This system also inherits limitations of virtue ethics. The list of virtues presented might be challenged. The virtues presented by Aristotle are criticized since they were centered on males in Greek. Several studies presented a large number of virtues. It is argued that some of the virtues are universal and others are not. It is also argued that some virtues of an individual should be biased toward close associates. Therefore, identifying a set of virtues applicable to everyone is a great challenge. One alternative is providing a more personalized set of virtues based on individual characteristics such as gender, job status etc.. Another alternative is to allow an individual to identify the most appropriate set of virtues for himself/herself. Another challenge is identifying moral building stories and categorizing them according to virtues. This challenge can be faced by building a crowdsourcing platform and encouraging interested parties to participate in the identification and categorization exercise. Furthermore, some propositions that have to be examined by behavioral researchers and criteria to validate the final product are presented in this paper.

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