

Research on the interactive design of intelligent assisted speech software

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Abstract. Nowadays, people need to make all kinds of speeches and presentations, both at school and at work. With the continuous development of science and technology, there is a lot of software on the market to assist people in making speeches. The aim of this article is to introduce the conception of a new type of presentation aid software and to analyse the development process of such software. Users from different backgrounds have evaluated the existing speech assistance software on the market, and this evaluation information will be based on the user reviews on the official website of the software download. Through the requirement analysis, the main problems and demands faced by the users in the presentation process will be identified. The software will be analysed and researched in terms of its design purpose, interface design, core functions, user experience and other aspects. The research conducted in this thesis provides users with new presentation assistance software that enables them to make more confident and smooth presentations. At the same time, this research provides useful references and discussions for the design and development of intelligent aids.

Keywords: Software Design, Artificial Intelligence and Interaction Design, Presentation Software, Assistive User Tools, Intelligent Software.

1. Introduction

In today's information age with the rapid development of social media and information dissemination, the ability to give presentations has become one of the essential skills that people can use in different scenarios to express their perceptions, share content, and influence others. However, it is not easy for most people to complete a successful speech. Users are often confused and uneasy when faced with the challenges of massive data collection, content organisation, and fluent presentation. Although traditional speech software provides some auxiliary functions, there are still some limitations, such as more single functions, presenting content that is not personalized enough, being unable to meet the actual needs of users in the speech process, etc. Meanwhile, there is a lack of function-collecting software on the market. This article analyses the conception of a new type of presentation aid software as well as existing software on the market, aiming at analysing and evaluating the conception of this software, as well as analysing the development of the field of presentation aid software for assisting users. To be able to provide users with a new presentation aid to help them overcome difficulties and improve the quality and efficiency of their presentations. The future trends of such software are also discussed in conjunction with artificial intelligence technologies.

2. Design Principles and purposes of intelligent speech software

2.1. Design Principles of Intelligent Speech Software

Designers in the design of software must adhere to user-centred, focus on user needs and experience, and design software to analyse the user's pain points. This intelligent speech software has four basic functions: the music function, which provides users with soothing light music to alleviate the user's nervousness and anxiety in the preparation of the speech. Database function, the user inputs the speech topic, and it will appear with its related articles, pictures, information, and other content, greatly saving the user's time to collect information. With the AI auto-generation function, the user inputs the topic into the search box, which will automatically generate the mind map, speech framework, and speech so that the user's speech is more logical. Video function: with this function, users can see a variety of excellent speech videos, but they can also share their own speech videos and listen to the opinions of other users. All these functions are based on the problems encountered by users in preparing and delivering speeches and targeted solutions. In the further development and production of this software, good communication with the programmers is essential. It has been researched that many pieces of software may be biased in the final stages of programme development due to insufficient communication with back-end programmers. In order to ensure that the functionality and design of the software is implemented accurately, the design team and programmers must work closely together. The design team collaborates with the programmers to discuss and detail the design of the software's interface and interaction logic, the purpose behind the design, and to ensure that the programmers can fully understand and realise the final interaction design [1].

2.2. The design purpose of intelligent speech software

With the continuous development of society, people will need to make speeches on various occasions, report their work and so on, and people will be affected by nervousness when they make speeches, for example, too much anxiety in the pre-preparation work, which will lead to the preparation of no ideas and low efficiency. Secondly, people usually spend a lot of time checking information online or on other mobile apps when they are collecting information in the preliminary stage. According to research, users' anxiety affects the way they prepare for presentations and how they perform when giving presentations, and users who are anxious about presentations use a variety of methods to prepare for presentations, many of which can be unscientific and inefficient [2]. This software can go a long way in helping users to solve some of the problems they encounter when preparing and delivering presentations.

3. A survey of software available in the market on assisting users with presentations

3.1. The development of such software

Such as PowerPoint, Canva, Google Scholar, Baidu Library, and other software, the above is the user in the preparation of speech commonly used in the auxiliary software to PowerPoint. For example, PowerPoint is a summary report; personal speech, publicity, and promotion of the scene are indispensable to a form of expression. In 1987, Apple released the first MAC version of PowerPoint (PPT1.0), which provides a new way for Apple users to present creative stories. Instead of writing long text documents, users could tell their creative stories vividly by combining pictures and words in a slide show. This innovation provided Apple users with a more compelling visual and unique experience. In 1990, Microsoft introduced the first version of PowerPoint for Windows, called PPT 2.0. Notably, this was the first time in Microsoft's history that the software was acquired through an acquisition of a company. PowerPoint emphasises the importance of colour and design, which are different from documents or forms. It presents information in a new way and has a visual impact on users. According to the experience so far, people tend to look at the presentation of PowerPoint from an aesthetic point of view as well as from the aspect of visual stimulation, and prefer a style with storytelling before the content of PowerPoint is scrutinised [3]. This also emphasises the importance of visual presentation and the importance of the artistic quality of the presentation in engaging the audience. In 1992, Microsoft

upgraded PowerPoint. The upgraded interface is more neat and orderly, the common toolbars and status bars have undergone new changes, and the area for creating presentations is more spacious and atmospheric. The upgrade also made the layout of PowerPoint closer to today's presentation, providing users with a convenient and modern experience. Step into the 21st century, PPT software increased support for the Internet, providing users with more Internet-integrated features. At the same time, but also gradually increased animation, outline and thumbnails (view effects), a variety of design templates and text input automatic adjustment and auxiliary lines and many other new features.

3.2. Core features and drawbacks of such software design

Power point as an example of presentation software allows users to add and edit text boxes, insert images, graphics, shapes, audio and video files, etc., and adjust the size, position and style to better present the information. PowerPoint also has a variety of built-in charts and graphs, so it is easy to create bar charts, line charts, pie charts, etc., which are used to present data and trends to help the audience better understand and analyse the information. PowerPoint provides a lot of animation and transition effects. PowerPoint offers a wide range of animations and transitions. Dynamic effects can be added to slide elements to make presentations more lively and interesting. PowerPoint provides Partition and Outline views that allow users to organise and manage slide content. It also supports multiplayer real-time collaboration: multiple users can edit and comment on presentations at the same time, promoting teamwork and sharing. However, according to the study, PowerPoint still has some shortcomings, such as over-emphasis on visual effects and graphical presentations, which may cause users to overlook the communication of important information. PowerPoint's slide layouts are generally fixed, which cannot meet specific design requirements, which may limit users' creativity and individual expression. This may limit the user's creativity and individual expression, and PowerPoint is a static presentation tool with limited real-time interaction with the audience [4].

4. Intelligent Assisted Speech Software Design with AI

4.1. The impact of AI on interaction design

With the continuous development of AI technology, almost every field can take advantage of AI technology, in terms of interaction design, AI can assist interaction design to a certain extent, and some repetitive and trivial interaction tasks can be automated to improve the efficiency and accuracy of the design. AI technology can analyze a large amount of user data and help interaction designers to understand the user's behaviors and preferences, in order to optimize the product's interaction Design. According to research, AI is not fully integrated with some common applications at the moment, which leads to users spending time not only on using some software, but also on understanding and learning AI functions. Secondly, as the integration of AI and interaction systems may be problematic, this may make the system less visually satisfying and familiar compared to traditional systems, which is also a problem in traditional interaction systems. The process of AI being used for interaction design and assisting the user is also learning intensive, and AI algorithms need to be trained based on the knowledge gained from the user or from the tasks performed. After the initial interaction, the AI's need for information from the user decreases and the user becomes proficient. However, in some cases, if the algorithm fails to learn, it can make the system unintelligent and reduce usability. Although privacy has been widely discussed in the world, it is still a challenge. Artificial intelligence algorithms usually require large amounts of training data to perform their tasks, and intelligent systems infer user behaviours based on collected data without the user knowing how the data is being used. In addition, customising the system's behaviour may reveal information such as the user's preferences or interaction history [3]. AI brings new possibilities to interactive systems, but it also brings uncertainty.

4.2. Difficulties and Challenges in the Design of Such Intelligent Assistive Software - How to Better Integrate with AI

The difficulty in the design process of intelligent presentation software is the function of AI auto-generation, which requires AI to be able to understand the theme and keywords entered by the user, and generate content with a sense of logic and professionalism. Secondly, the generated slides need to have a certain sense of design and aesthetics, and can be adapted to the user's theme, which can bring more creative inspiration to the user. It is also necessary to develop a personalised style according to the preferences of different users to avoid massification, which requires the AI to learn the user's footprint, search habits and other information. According to research, designers' choices depend heavily on the materials used and how they combine together to create aesthetically pleasing and functional products. As AI becomes an increasingly important part of everyday products, designers need to figure out how to use intelligence as a new material with its own identity and possibilities. This won't be easy, as instant intelligence can mean a radical departure from previous design practices, much like the shift from paper to screens at the dawn of the internet. Replacing human interaction in real life is exactly what AI is currently unable to do. These kinds of problems require a true understanding of the world and the user's intentions, which is harder to achieve with today's intelligent networks. Instead, AI systems should focus on what humans cannot do but AI can do well [5]. There is also a need to ensure data security and privacy protection from disclosure and misuse, and according to research, we are already seeing AI systems impacting privacy in many ways, though not always in the ways one might expect. AI systems challenge a number of features that are typically associated with privacy, such as the cognitive privilege that individuals typically enjoy in relation to information about themselves, and the control over information about themselves that individuals rely on in their everyday interpersonal interactions. However, it is unclear whether this in itself will have a significant impact on private life. In large part, this is so because privacy itself is fundamentally tied to how others perceive our interests, and AI systems do not shape perceptions that might interfere with those interests. However, it is important to recognise that there is a great deal of information about individuals in AI systems, and that the risk of privacy being violated increases when this information is accessed by individuals who are able to form perceptions based on this data. Even if AI systems themselves do not pose as great a threat to privacy as one might think, this does not mean that they are not dangerous [6]. In summary, such intelligent assistive software has certain challenges in the design process, especially in relation to this feature of AI.

4.3. Possible drawbacks after application

This kind of interaction design related to artificial intelligence will have more and more products in the future, and now there are some apps combined with AI to generate pictures, videos, articles and other contents for people. However, there may be some drawbacks after this intelligent speech aid software is applied, such as the audience scope is not wide enough, it may be mainly for some college students, company staff, etc., and people who have high standards for speech. Secondly, since this is a new software, it will not attract people to accept and use its functions at first. The database and video functions may have problems such as incomplete resources and copyrights, and the AI generation function, there is a certain possibility that people may become dependent on it and reduce their ability and intention to design flowcharts and slides for presentations, and to write speeches.

5. Conclusion

People in daily life, study, and work need to make speeches and lectures about this social phenomenon and have conceived a function of a collection of intelligent speech assistance software. According to the survey, this kind of function of a collection of software on the market has not yet appeared; at present, it is still a single function of the main auxiliary user of speech-based software. However, it is worth noting that it is necessary for the user to understand how artificial intelligence actually affects the interaction. It must be clear to the user that the system makes its own decisions based on the information it receives, rather than operating according to a fixed set of rules. This may require rethinking the basic components of the user interface, with special buttons or interfaces that allow the user to act on the basis of

intelligence. AI may require more ambiguous and open user interfaces in terms of interaction design than we are used to. In the future, AI systems must also be designed to share control with the user. This is not to say that one of the parties has complete control. On the contrary, true shared responsibility must be provided in systems based on active intelligence. There are still many challenges to be faced when designing software with AI. When analysing the future trends of this type of interaction design, it is inevitable that we will have to use intelligence and integrate it with AI, but it is important for designers to design software that allows the user to truly communicate and interact with AI on an equal footing, and to understand the capabilities of AI is one of the keys to success.

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