A Design Approach for Authenticity and Technology

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ABSTRACT
Today’s sensor-rich and socially-networked world forces us to ask whether technology is moving us away from an authentic life. We all have different views on what constitutes an authentic life with technology and, through our actions, try to stay true to those views. We describe a design approach called “Designing for Authenticity” that draws from the existentialist philosophy of Søren Kierkegaard. It allows researchers engaged in immersive fieldwork to articulate the possible patterns of authentic living with technology. It also outlines a strategy to design artifacts that indirectly communicate to users the experiences of those living in different modes of authenticity. Yet, our approach gives the designer’s own informed convictions weight in advocating that one should commit to a spiritual life-view with technology. To illustrate our approach, we subject previously published research on Irish traditional musicians to our designing for authenticity approach.

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Authenticity; design approach; philosophy; existentialism; spirituality; techno-spirituality; Kierkegaard

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INTRODUCTION
There is a consensus amongst scholars [1, 8] that one part of ubiquitous computing’s vision [58]—technology of different forms will permeate all facets of our lives—has come to fruition. We can use technology anywhere and anytime. Indeed, it is now difficult to imagine any activity not somehow mediated with technology. Today’s sensor-rich and socially-networked world comes with a familiar refrain: technology moves us away from an authentic life, a life that lives up to the full potential of humankind. For example, research has described how technology is blamed for eroding conversational skills [53], supplanting traditional practices [52], and removing our connection to nature [3] or society [14].

This rhetoric reflects a central challenge of modernity: balancing the purported benefits of technology adoption with the corrosive effects it may have on one’s goals and values. In particular, technology’s inescapable nature impels subcultures [30] to now confront the potential conflicts between technology and their mores. Among religious groups, members leverage technology for convenience and financial reasons while technically not violating their faith (e.g., Amish “workarounds” [19] and home automation for Orthodox Jews [59]). The specialized skills passed down from generation to generation in isolated subcultures are in danger of being displaced by technology (e.g., the deterioration of wayfinding skills amongst younger Inuit due to the proliferation of GPS devices [4]).

Research in HCI and its related fields often employ the term “authenticity” in a loosely colloquial manner to explain why users limit, disparage, discontinue, delay, or refuse the use [7, 46] of digital artifacts in their lives. In asking why we choose to use technology in the ways we do, such work has often brought to light an individual’s personal beliefs on what constitutes “the good life” [5].

This paper outlines a new design approach that focuses on authenticity—treating it as a fundamental concept that humans deeply think about, have feelings about, and act upon. We begin with a definition of authenticity [6] that encapsulates this relation between one’s actions and personal philosophy:

A mode of existence arising from self-awareness, critical reflection on one’s goals and values, and responsibility for one’s own actions; the condition of being true to oneself. [emphasis added]

This existential-slant toward authenticity emphasizes that human agency is the pathway towards achieving a way of living that embraces human potentiality (being true to oneself).

Our interest is in the intersection of authenticity with technology. We make two observations here. First, it is a matter of active public debate as to what constitutes an authentic life with technology. For instance, some believe cameras disengage us from the real world (e.g., from truly appreciating the art in a museum [44] or the performance in a live concert [17]). Others believe humanity has always been intact despite such technological advances [15, 42]. In sum, individuals hold different beliefs on authenticity, each of which prescribe a particular integration of technology that avoids violating one’s life-view. Second, while striving to follow a chosen model of authentic living, people are aware of the hypocrisy of their own technological practices. Simply put, we veer away from authenticity for practical reasons. One might, for example, compromise...
We propose a design approach—"Designing for Authenticity"—as a first step toward addressing these concerns, specifically the multifarious nature of authenticity and our difficulty in choosing an authentic mode of living. The genesis of this approach comes from the efforts of Su and Duggan [52] to puzzle out the varied beliefs and reactions to a system called TuneTracker that was designed, developed, and deployed for Irish traditional musicians—a subculture whose members for centuries have scarcely relied on digital technology. Despite being informed by an immersive two-year ethnography of folk musicians in Dublin [51], some of the study’s informants felt TuneTracker’s design represented the actions of an immoral and inauthentic musician at odds with tradition. Other informants, however, did believe TuneTracker respected tradition and, in fact, embodied the ways of an authentic folk musician. The approach in this paper is one possible way to understand and act on these mixed findings.

Our design approach draws from the work of Søren Kierkegaard, arguably the first existentialist philosopher. Kierkegaard recognized that authenticity—the “condition of being true to oneself”—differed across people. Yet, he also believed and wished to communicate that one particular mode of existence best exemplified authenticity. Designing for authenticity turns to two of Kierkegaard’s major concepts: spheres of existence and indirect communication. With spheres of existence, Kierkegaard attempted to map out our possible modes of existence. Each sphere has its own view on what one must do to have a fulfilling and meaningful life. Indirect communication describes Kierkegaard’s peculiar method of disavowing authorship of his own writing in order to more persuasively present the positive and negative aspects of each sphere of existence. This encourages the reader to make their own commitment, without the author’s reputation or authority being a factor, on what sphere of existence to adopt.

Designing for authenticity marries interaction design with Kierkegaard’s philosophical concepts. Spheres of existence provides a broad foundation for the designer who has achieved both (a) a thick description of the domain of interest (e.g., through ethnography [26]) and (b) a heartfelt conviction regarding the varied lifestyles of that domain to begin to articulate, in a penetrating manner, the benefits and pitfalls of adopting a certain approach to authenticity with technology. In this sense, designing for authenticity takes to heart Le Dantec et al.’s [38] point that “what gets lost when we talk about values in the abstract...is the visceral relationship to values as lived experience.” Through our approach, designers can begin a dialogue on how their designs may cohere or intervene with users’ lifestyles. Indirect communication outlines a strategy for designers to brainstorm or create technological tools for users to critically understand the role of technology in different notions of living authentically.

Most radically, designing for authenticity is prescriptive. It asks users to simultaneously consider different modes of existence and to deeply commit to their chosen sphere of existence. Furthermore, it challenges the user to strive towards what Kierkegaard called the religious sphere of existence—a life-view which he believed epitomized authenticity. In our design approach, we broadly interpret the religious sphere as a spiritual, transcendental mode of existence that cannot be explained in rational terms.

Because Kierkegaard is regarded as a Christian philosopher (whose influence unequivocally extends to the secular world), we wish to make abundantly clear that we are not arguing for or against a life that follows Christianity or any other religious denomination. Yet, we believe Kierkegaard was right in asserting that if we are to talk about the authentic, we cannot escape the metaphysical. Buie similarly argues that since spirituality is part of most people’s lives, HCI needs more studies that understand and design technology that support these modes of existence [11]. Further, Kierkegaard is advocating for a more personal, spiritual inwardness for ourselves, a self not encumbered by the politics and shallow traditions of institutions (in his time, the Church of Denmark).

This paper presents a nascent step in making authenticity a first-class object of inquiry in design. Through the example of Su and Duggan’s research on Irish traditional musicians, we demonstrate the use of our design approach. Their research is an apt exemplar because it describes efforts to design for a subculture where concerns of authenticity with technology are particularly visible. However, our primary goal is not to present the sociotechnical practices of musicians (for that, see their work [51, 52]), but to help readers understand, use, and build upon our design approach. First, we demonstrate how spheres of existence provide a useful framework for conceptualizing disparate views on authenticity and technology amongst Irish traditional musicians. Second, we present a hypothetical transformation of TuneTracker’s design into a new design—Indirect TuneTracker—that adopts Kierkegaard’s strategy of indirect communication. Lastly, we contrast our design approach with past, analogous work, followed by suggestions for future work on designing for authenticity.

ILLUSTRATING OUR APPROACH: IRISH TRAD MUSIC

We illustrate designing for authenticity through a previous three-year study on the intersection of technology and Irish traditional (trad) musicians by Su and Duggan [51, 52]. Participatory observation and interviews with 27 trad musicians were conducted in Dublin, Ireland. To set the stage, we describe what trad musicians do and then summarize their published work.

Irish trad musicians gather together in sessions to play Irish music together in a public space (e.g., a pub). Most trad musicians do not use nor can read sheet music. Sets of tunes are played in a session. A set is two or three tunes played in succession without a pause. Tunes in a set usually have the same meter/rhythm (e.g., jig, barndance, hornpipe, polka, slide, or reel). Each tune in a set is repeated three times in a row. The musician who starts a tune is usually expected to lead by choosing what tunes follow one after another (thus forming a set). Unlike jam sessions in genres like jazz where improvisation is valued, trad music is essentially monophonic music.
in which the melody is played in unison. However, unobtrusive harmonic or percussive backing by guitar/bouzouki or bodhrán (an Irish drum) is now common. Each session has its own particular yet ever-changing repertoire of tunes. Session tunes are also influenced by their regional styles (e.g., Sligo fiddle playing or Roscommon flute playing). Each session can be said to have its own particular repertoire of tunes.

Ethnographic investigations found that professional Irish trad musicians draw from a multitude of analog and digital sources (e.g., CDs, YouTube clips, and transcriptions) to reach an “authentic” representation of a tune [51]. Amateur musicians, however, vacillate between different representations of tunes, finding it difficult to reach an acceptable, authentic form for a tune. “Tradition,” for those steeped in Irish traditional music, means embracing aural learning, respecting old masters, knowing the provenance of tunes, upholding the social aspect of playing, believing in etiquette in sessions, and possessing a flexible and ambiguous notion of what a tune is. This notion of a tune includes playing with ornaments and variations that respect the melody, having incomplete, hazy knowledge of tunes that are filled in by other musicians during collaborative playing, and a reliance on memory (professionals know thousands of tunes by heart) rather than sheet music.

In response to these findings, the TuneTracker system was created by Su and Duggan [52] to address the gap between amateur and professional musicians. TuneTracker was a continuously running system installed in The Cobblestone (a pub in Dublin famous for its Irish traditional music sessions). TuneTracker dynamically tracks the tunes played by musicians in a session and publishes the names of those tunes on a public website. It statistically analyzes tune playing trends to give musicians a sense of what tunes are popular. Such information can be used, for example, to suggest what tunes need to be learned to be able to play along in a session. TuneTracker’s reception revealed divergent viewpoints [52] on the interplay between TuneTracker and authenticity in trad music. We now turn to understanding these viewpoints by describing and applying Kierkegaard’s spheres of existence. In our writings below, the Irish musicians, TuneTracker, and Indirect TuneTracker serve as rhetorical and pedagogical tools (founded upon empirical data) to illustrate our design approach in action.

UNPACKING AUTHENTICITY: SPHERES OF EXISTENCE

Kierkegaard outlines three spheres of existence: the aesthetic, the ethical, and the religious. Each sphere dictates a particular life style—a guide on how one should live, what one’s goal in life should be, and what kind of commitment is required to have a fulfilling life. The spheres also elucidate the inherent tensions and dread exhibited in such life styles. Spheres are less about categorizing behaviors or activities and more about representing the possibilities of living that are available to all of us. In addition to translations and the prefaces of Kierkegaard’s Fear and Trembling [37], Either/Or [36, 35], and Two Ages: The Age of Revolution and the Present Age [34], our exposition of Kierkegaard owes much to Garff’s [25] prodigious biography of Kierkegaard, Mullen’s [41] work on Kierkegaard’s significance in modern society, Evans’s [21] primer on Kierkegaard, Walsh’s [56] aesthetic perspective into Kierkegaard’s existentialism, and an introductory chapter on Kierkegaard by Guignon and Pereboom [27]. In accordance with previous scholarship on Kierkegaard, we will use the terms spheres of existence, stages of existence, modes of existence, life styles, and life-views interchangeably.

We now present three life-views of the authentic Irish trad musician. We first describe each sphere of existence’s virtues and faults according to Kierkegaard’s writings. We then re-imagine or frame Su and Duggan’s data and findings on traditional musicians into these spheres. We emphasize that these re-imaginings are our own translations. By following Kierkegaard’s philosophy and our convictions, our translations advocate, albeit indirectly, the religious sphere as the most “authentic” life-view.

I. THE AESTHETIC SPHERE: MASTERING PLEASURE

In the aesthetic sphere, enjoyment and pleasure is the goal of the individual. The aesthete lives for the immediate. Happiness is gained through the satisfaction of immediate desire. As a result, the aesthete experiences time in fleeting moments. The aesthete is a poet who investigates human nature through irony. As a critic of human nature, irony allows the aesthete to detach themselves and passively observe—without commitment—the world. This ironic posture [41, p.19] allows the aesthete to play with and imagine the possibilities available to their life. The poet embraces an emotional and critical viewpoint of social laws and mores.

There are a spectrum of individuals described in Either/Or who adopt an aesthetic lifestyle. The Countess is a person obsessed with health and beauty. The genius seeks enjoyment through the development of a particular talent or skill. The seducer conquers one woman, only to seek another one.

These individuals represent the most shallow adopters of this sphere, the immediate aesthete. However, the immediate aesthete risks boredom; when one continually seeks momentary, immediate pleasures, life becomes a series of fragmented projects. Their lives become governed by chance and fortune. The reflective aesthete represents the pinnacle of the aesthetic sphere. Borrowing an agricultural metaphor—“a rotation of crops”—the reflective aesthete proposes two methods to combat boredom. The first is to simply exhaust the soil and move onto another field. Yet, this method is doomed to fail since the search for something new will itself become boring. The second is to carry out “genuine crop rotation...changing the method of cultivation and the kinds of crops.” In this method, one chooses to “live with intensity rather than seeking extensive experiences” [20, p.78].

This requires one to adopt the discipline of remembering and forgetting. Essentially, the reflective aesthete tries to experience things intensively so that they can remember it at any moment. They sacrifice permanent commitments such as marriage or friendship and moderate enjoyment (since it is not “intense” enjoyment). The aesthete can thus guard against, to some extent, the ephemeral nature of their moments: “We must learn to keep our enjoyment under control, so as not to indulge
in an experience too long or allow it to acquire too strong a hold on us” [56, p.90]. One makes their own life a project through detachment and happily observes themselves enjoying life. This ensures total freedom and self-control of our lives.

Problems: Chasing the Dragon. Two key problems plague the aesthete [21, p.85–89]: the loss of immediacy and the inescapability of the ethical. First, the reflective aesthete will never escape dependence on the external world. There is a constant worry of not being able to secure what is desired as well as diminishing returns for continued effort to create “interesting” experiences for themselves. The life of the aesthete is one of alienation. By always living in the immediate, random events of joy may give satisfaction, but random events of illness may destroy the immediate aesthete. There is no chance for a stable identity. Second, the aesthetic seems to lack any moral compass. The Seducer, for example, is willing to go to extreme deception to, with cold calculation, seduce a woman while claiming no violation of the ethical because no commitment has been made to begin with.

Perhaps the most significant criticism comes from Kierkegaard’s commentary on our present age [34]. Stepping back from the individual to the societal level, the present age is “the social instantiation of the aesthetic sphere” [13]. The present age is a “sensible, reflecting age, devoid of passion, flaring up in superficial, short-lived enthusiasm and prudentially relaxing in indolence” [34, p.68]. The present age is where everyone knows everything, and nothing is done with fervor. Information overload drains the meaning from our life. Our life becomes one of endless sampling, like trying on different suits.

One of the present age’s most stifling phenomenon is leveling [34]; everyone is put on the same level, individualism is stifled by the public, and a mass of unsubstantial “anonymous” gather without repercussion. Privacy is no longer valued; instead individuals crave gossip generated by the press. Unlike the past when individual bravery was admired, such acts are deemed foolish or regarded with cynicism (as an acrobatic stunt). In the present age, we can have our cake and eat it too—neither sacrifice, nor commitment is necessary.

I. The Aesthetic Musician: Music for My Own Pleasure

Newcomers to Irish traditional music seek ways to immediately join a session. The aesthetic trad musician revels in the thrill of playing together. The worst musicians read off sheet music during a session (a social taboo) or use the TunePal smartphone app to in situ identify tunes being played in a session and show the music notes for tunes. Regular session musicians are likely to glare at the aesthete who is actively reading the written notes instead of sitting, listening, and recording the tune for later learning. For the aesthete, the only goal is to play along. This will avoid the consequence of being bored, sitting with an unused instrument. She insists on getting the chance to play her own sets of tunes, rather than playing other people’s tunes. She wants to learn difficult, virtuosic tunes that will impress, yet few will want to play together.

The immediate aesthete is never concerned with the history of tune playing in a session. Sessions often have regular partici- pants, tunes, rhythms, etc., that only become apparent through continued participation. She quickly becomes bored of a session, jumping from one pub to another in an attempt to find the “right” session for her, like many suits.

Ultimately, the aesthetic musician reveals herself to be an automaton with a limited repertoire. She learns tunes from sheet music, fails to socialize with others, and ignores the context of the tunes themselves. She remains steadfastly fixated on her own tunes, and does not seek to adapt her playing to the styles/variations of the local session. Technology, both old (sheet music) and new (apps), facilitates her goal of immediate tune playing.

To avoid boredom, she may elevate herself into a reflective aesthete, coveting tunes to ensure that their performance gives her desires maximum intensity. Although she believes strongly in living in the moment, through continuous experimentation with tunes and sessions, she is never bored and constantly challenged in her pursuits. She avoids being tied down to social conventions in Irish traditional music. She becomes quite adept at appreciating the beauty of music, the aesthetic pleasure of listening and playing. That is her only concern.

TuneTracker encourages the aesthete to alienate herself from the community of trad musicians. She knows everything about the session instantly—she knows what tunes are played, what the statistical trends are (e.g., what are the top 10 tunes played last week), and can quickly prepare herself to perform with the other musicians. She devours the practice of making local (potentially private) tunes a global phenomenon. She has little respect for old timers or established players—the heroes of Irish music. The ethical is inescapable. She feels shunned by the other musicians, and her connection with others is on a shallow level. She has no control over whether her tunes will be played, nor whether she can play with others. She has all the information but they are just probabilities, and she finds that the tunes played are very much dependent on who is there.

TuneTracker is a great leveler. It compresses the session into a nameless list of tunes compiled by an emotionless system. We don’t know who played which tunes—individualism is lost. Instead of faces in the crowd of a pub, we have the public, anonymous spectators of the Internet. What was once locally public but globally private is now public across the board.

II. THE ETHICAL: COMMITTING TO COHERENCE

To live an ethical life requires a monumental commitment to construct a coherent life project. Rather than being free to create oneself, as one in the aesthetic sphere does, our freedom allows us to find one’s place, task, and calling in the world. One must find a civic-self in service to others.

Here, existence is orderly and predictable. For the ethicist, courage is to have the self-discipline to commit oneself to his chosen goal in society. In Kierkegaard’s terms, the ethical life is not devoid of an awareness and relation to God [20, p.116]. God is a being embodying humanity (someone we can relate to) who has given you a pathway to follow in life.

Perhaps the best exemplar of the ethicist’s actions is his willingness to commit to marriage. Whereas the aesthete makes
love a thing of passion and spontaneity, the ethical makes marriage one’s duty. Rather than regarding marriage as the immediate, the ethical gives love a rich, deep history. Marriage gives love endurance and coherence. Marriage does not make love a burdensome duty, but allows us to structure love with depth via commitment so that two people can create a history.

The aesthetic sphere is ultimately unsatisfying to those in the ethical sphere [20, p.97]: “Humans have, as they mature, a fundamental need to live spiritually meaningful lives, and this requires them to possess ideals to which they are committed and which define them as selves.”

**Problems: Equating Duty with Faith.** Kierkegaard saw Hegelianism (succinctly put, fulfilling one’s responsibility in the institutions of society) as “an intellectual expression of the kind of society he saw around him in Europe, the society that he called ‘Christendom’” [21, p.xxii]. In Christendom, becoming Christian merely entails possessing the values society deems as good. In our present age, Kierkegaard scoffs at the notion that one can become a true Christian by, for example, performing good deeds, attending the Christian Church, or becoming a monk. Instead, Kierkegaard believed becoming Christian required a life changing, costly commitment that few people are willing to make. Such a commitment is not captured in the ethical sphere.

The problems with the ethical are illustrated in Kierkegaard’s most famous work, *Fear and Trembling* [37]. The book does a close reading of the famous Biblical story, *The Binding of Isaac* [Genesis 22:1–15 English Standard Version], God commands Abraham to sacrifice his son, Isaac. Without question, Abraham willingly takes his son to Mount Moriah to be sacrificed but, at the last minute, an angel stops him, and a ram appears to take the place of his son. Why is it then that we consider Abraham as the ultimate embodiment of faith, yet, when judged through an ethical perspective, his actions (filicide) are reprehensible? The ethical sphere does not understand faith nor religion.

**II. The Ethical Musician: Embracing Tradition**

The ethical trad musician seeks to find one’s place in trad music and in the local session itself. He is willing to decisively sacrifice the immediate (the desire to play many tunes in sessions) to find his place and duty in a session. Here, the social rules that govern sessions gives our musician the guidance to become part of the traditional music community. The session is a rational, orderly entity with implied etiquette. Tradition dictates “toughing” it out. He sits in many sessions for hours on end without being able to play a single tune. Yet, he is willing to listen, record, and converse about the history of tunes in the session thereby gaining a deeper representation of what tunes are about. Rather than desire to simply play, he desires to play harmoniously with his session mates. Rather than acting as a tourist, he is willing to stick with a session and become part of its history. Thus, the ethical musician takes responsibility for his actions. Although the aesthetic musician may regard the ethicist as removed from joy, the ethicist would counter that his life-view allows him to give music its proper profundity as a socially situated practice with a rich local history.

Within the ethical sphere, the schools of thought are pluralistic. There is one camp of ethical trad musicians that, as their moral code, embrace more progressive developments in trad music. These musicians define “tradition” to include jazz techniques, electronic instruments, and unorthodox, modern tunes. Instead of viewing tradition as old tunes played by old masters in old places, they seek out recordings by up and coming trad musicians who push the envelope of traditional music.

The ethical musician is quick to admonish those in the session who use technology as an immediate aesthetic would. TuneTracker does not prescribe music, nor does it have agency. Rather, it is a tool for the ethical musician to use. TuneTracker ensures that ongoing traditions are preserved for future generations. TuneTracker welcomes newcomers into the session, thereby upholding the ethic that sessions are egalitarian affairs open to people from all walks of life. Sessions are locally and globally open to listening and participating.

For some ethicists, however, TuneTracker represents an active agent who has no role in traditional music—it does not maintain nor spread music in traditional means (e.g., aurally). As such, it is subject to abuse by the aesthetic musician. The aesthetic musician may use TuneTracker to bypass the duties to tradition that the ethicist holds dear. Some ethicists believe the session is a public space locally but a private space globally. TuneTracker violates this ethic, forcing the session’s gates open to the Internet world.

Although the ethicist makes a concrete choice in becoming part of the tradition, he still can never escape a kind of despair over sacrificing the aesthetic. For one, he is not sure his choice is the right choice. Is he choosing his task in life correctly? Can he derive pleasure in his playing? Second, he may be embracing “Christendom” in the form of sanctioned, government-sponsored ways of traditional playing (e.g., Ireland has Comhaltas, an organization dedicated to promoting and preserving Irish traditional music). Is this ethical duty enough to be a traditional musician?

**III. THE RELIGIOUS: THE UNATTAINABLE INFINITE**

The religious sphere is defined by its difficulty to be conceptualized. It requires a sort of commitment that few can live up to or understand. Abraham is willing to sacrifice his son; he is willing to, as Kierkegaard writes, make the movement of resignation. He is resigned to sacrificing the finite (things of the material world, in this case, Isaac), for the infinite (spiritual). Clearly, making such a movement of detaching oneself from finite things is difficult and full of suffering. As we live in the religious sphere, we suffer guilt, “a constant awareness that one’s own powers are insufficient to express infinitude” [27, p.13]. This is called a double movement. First, Abraham wishes to have a son (at a very old age) and loves him. Second, he uses all his courage to sacrifice this granted wish. This movement is conducted by what Kierkegaard calls a knight of resignation (the first variant of the religious).

However, Kierkegaard provides an alternative, less gloomy scenario to the above. Rather than always living in guilt and relying on our own will to become religious, Kierkegaard says we must passionately commit to the paradox that God is both
a temporal and eternal being. In other words, we have faith in things beyond our understanding—this is a movement that cannot be done rationally. This is in contrast to the ethicist who sees God as nearly human—someone relatable.

To accomplish the above, the knight of faith similarly does a double movement, but “at the very same time that he resigns the finite he receives and accepts it back ‘by virtue of the absurd’” [27, p.14]. Abraham was prepared to sacrifice Isaac, but he agrees to have him back when a ram is offered by God instead. Even as Abraham “accepts Isaac back, he does not relinquish the movements involved in infinite resignation...he maintains his intense love, his resignation, and his acceptance, all at the same time” [27, p.15]. What we end up with is this strange, miraculous, and contradictory situation of truly giving something up but being able to take it back.

This absurdity brings home the point of the monumental task needed to become a knight of faith. It is an ill-conceived notion to try and logically explain what faith is. In fact, most of us cannot be knights of faith because we cannot readily identify such people in everyday life. They are like aliens to us. Although those in an ethical life have self-confidence in their relation to God (something within grasp), the “religious individual...has made discoveries about the difficulties of becoming an integral self [and is] someone who is no longer confident of the God-relation as a goal to be achieved through action” [20, p.117].

III. The Religious Musician: Music at Another Level

We preface this section by noting that we will adopt Kierkegaard’s style of writing. In his writings, Kierkegaard was speaking of the Christian God (although a conception of God removed from institutions that differed from many of his contemporaries), but, here, we take the analogy of God as the spirituality or infiniteness of music. We use words like God, faith, and salvation in a more rhetorical manner to convey that music is both something larger than oneself and an inward experience. Based on the lived experience through ethnographic work and our own convictions/translations, like Kierkegaard, we advocate this as the authentic life-view.

We cannot know nor identify the religious musician. As what Kierkegaard calls “a knight of faith,” she is completely foreign to us. Yet, we know she is someone who has made a monumental commitment to the “spirit” of music. An ethicist may follow the teachings and writings of traditional musicians, but simply doing one’s civic duty does not make one a traditional musician. Faith itself is a gift from God that is not human.

A traditional musician who exists in a religious life has renounced attachments to finite things and has given up satisfaction on Earth for the promise of eternal happiness with God. She is one who painfully experiences a recognition of the impossibility that it is to become a truly authentic musician and to ever really “know” a tune. You will always fall short. It is an acknowledgment of the contradictions inherent in society’s moral compass and what is demanded from you as a musician. It is nonsensical to claim to be a religious musician. Striving to be a Christian musician is not a “gradual achievement of perfection but inversely...a deepening recognition of the imperfection of our striving” [56, p.239]. The religious musician constantly repeats the practice, listening, playing, learning, etc., of tunes, their history, and their social meaning not for the sake of achieving perfection, but to repeatedly relive the earnestness with which the musician believes in God (the spirit of music).

Professional musicians—and especially those who have been steeped in the culture (i.e., have a long familial history of Irish traditional musicians)—have a certain humor about traditional music. The painfulness of the situation of earnestly striving but never reaching infinitude can be mitigated by seeing the situation in a comic, rather than tragic sense. The religious musician humbly accepts that one cannot simply create oneself—at some point she needs cooperation from the divine to live authentically. A religious musician is not a product of self-creation but self-development.

We can perhaps glean some hints on what it takes to be a religious musician from this Facebook post by Harry Bradley, a professional Irish flute player (winner of the 2014 Gradam Ceoil TG4 award, the “Grammy awards” for Irish trad musicians):

Here’s what’s on my mind: People sometimes ask me advice on how to play music (first mistake!). Here’s what I SHOULD say to them, but am usually too shy or distracted to: Don’t aspire to play sh*t just because it is the flavour of the month. Lavish your attention on the music, learn to hear it: Learning to hear it is the key to learning to do it...It’s not for everyone, Brian. I quite accept that people just play music for enjoyment, as a hobby etc...

Sessions are fine sometimes, often they are a pain in the hole if I want to play well. I see their [sic] social function and all that, but I can’t always say they are good for my or other people’s playing...

I don’t give a sh*t what other people think really, never did (well, maybe a few certain people at times). That’s part of going for it: Keep your head down and your eye on the ball. If I did give a sh*t then I probably wouldn’t be playing in the way that I do which, if not particularly accomplished, is at least a bit distinctive.

First, Harry calls the question of “how to play” a mistake. Second, he tells musicians to not go for the immediate, the flavor of the month. Third, he wants you to sacrifice yourself to the music, to hear it for itself. He acknowledges that people play “for enjoyment, as a hobby.” But to really become a musician, something that you may never be, requires monumental commitment. Lastly, Harry criticizes sessions as sites for musicianship, which conflicts with mainstream ethics that sessions are part of the tradition in Irish trad music. In this sense, the religious musician is prepared to embrace activities that seem at odds with the ethical, or tradition. Ultimately, it is a solitary pursuit where a musician embraces both the infinite and finite to achieve the grace of God.

The religious musician embraces and loves music with all her heart, but then is willing to sacrifice it to paradoxically receive it back. The religious musician has full faith that she will receive God’s salvation. She embraces the contradiction
TuneTracker does not capture the tradition of the religious musician. It can be used in an ethical or aesthetic manner, but it does not convey the absurdity of the situation and our inevitable, irrational step towards faith. TuneTracker rationally reduces God into tune names and statistics that we can process and then delude ourselves into thinking we can become authentic musicians. The religious musician may find TuneTracker amusing but ultimately lacking in communicating the infinitude of that which is traditional music. We cannot recognize in TuneTracker what it takes to be an authentic trad musician.

DESIGNING WITH INDIRECT COMMUNICATION

Having described our re-imagining and framing of the varied viewpoints on authentic living by traditional Irish musicians, we now turn to explaining Kierkegaard’s writing strategy and its utility to design. Kierkegaard is daunting for the new reader because he purposefully distances himself from his own writings. Most of his major writings are authored by fictional writers (sometimes multiple). First-person prefaces sometimes have mysterious stories of how the main text’s manuscript was accidentally found and thus published. With obviously made-up names such as Johannes de Silento, Johannes Climacus, A, and Judge William, Kierkegaard was not trying to hide his authorship. Instead, through indirect communication, Kierkegaard asks his readers to do a double reflection. This subjective understanding requires that “a person first grasp the relevant concepts (first reflection), but then go on and think through what it would mean to apply those concepts to the person’s own life (second reflection)” [20, p.30].

Indirect communication also allows Kierkegaard to remove himself as an authoritative figure—the reader must, on their own, reach their own conclusions on writings from a possibly unreliable narrator regarding how to live. Lastly, Kierkegaard believed it is simply impossible to explain directly and in written text spiritual matters on how to live rightly. Evans [20, p.35] notes that “I can help another person learn to love what I love, but my love cannot simply be transferred to the other person...what I communicate to the other is necessarily indirect.”

We suggest that designing for authenticity not only means describing spheres of existence but designing artifacts to indirectly represent these spheres of existence. Kierkegaard needed to somehow communicate, albeit indirectly, via his own writings on what an authentic mode of living is. Inspired by his writings, we believe designers can similarly communicate, as Kierkegaard did, ways of living.

Ultimately, Kierkegaard’s writings were to help reintroduce Christianity into Christendom. That is, save us from the deception that Christendom is Christianity. He argued that this cannot be done directly: “An illusion can never be destroyed directly...This is what is achieved by the indirect method, which, loving and serving the truth, arranges everything dialectically for the prospective captive, and then shly withdraws (for love is always shy), so as not to witness the admission which he makes to himself alone before God—that he has lived hitherto in an illusion” [33, p.332]. It is through the indirect method that Kierkegaard seeks to draw out our commitment to his notion of the (reformed) religious sphere.

INDIRECT TUNETRACKER

In mid-19th century Copenhagen, Kierkegaard could only use paper books and articles to indirectly communicate to his readers. Now, we can imagine a variety of digital forms—tangible devices, wearable interfaces, mobile apps—to create an interactive artifact of indirect communication. We can thus consider the possibility of designing a hypothetical version of the TuneTracker system that indirectly communicates the different life-views of traditional musicians we have discussed earlier. Namely, can we take advantage of the persuasive power of indirect communication to convey different views on authenticity? What would this “Indirect TuneTracker” look like?

Kierkegaard himself describes several requirements in carrying out indirect communication. First, Kierkegaard suggests that rather than directly stating that a particular life-view is the way to be authentic, the system would describe such a way of life as both concrete and a possibility. An Indirect TuneTracker needs to describe, not exaggerate [56, p.208] (i.e., concoct an imaginary fairy tale) to be concrete:

The subjective [existential] thinker is not free, therefore, to present an imaginary, illusory self-portrait, using the variety of enhancing scenes and settings ordinarily employed in poetic construction.

Second, Climacus (pseudonymous author of Concluding Unscientific Postscript) asks that the existential human communicate to others in the form of the possible. Instead of directly telling others of one’s actions to be admired, the existential human should present that which is admirable universally to humans and present that as an “ethical requirement, as challenge to the recipient to exist in it” [56, p.208]. Rather than simply depicting neutral “data” on tune playing with TuneTracker, Indirect TuneTracker could explicitly challenge the user to become a more authentic being. For example, Indirect TuneTracker may turn off or hide features that support an aesthetic life-view to force the user to consider the possibility of an ethical life.

Third, Climacus warns that we must consider what we describe based on whom we are describing to. For example, a religious person who depicts eternal happiness to an aesthetic person would be missing the point. It does not adequately describe what it means to be a religious person: “It would be more appropriate...to describe instead what that person has suffered for the sake of eternal happiness” [56, p.208]. The constant suffering of musicians to achieve their movement into the religious sphere would need to be conveyed in Indirect TuneTracker. For example, one might imagine tunes accompanied by some depiction of the same tune played by various musicians whom continue to master the tune. Aside from simply depicting tune practices, an Indirect TuneTracker could convey information about the participants in the session. A sense of how often they participate and how they continually learn as if beginning from scratch would communicate this suffering.

Our exposition of Kierkegaard’s indirect communication suggests that a hypothetical Indirect TuneTracker could have sev-
eral modes, each of which depict a different sphere of existence depending on the user, and which also challenge people to consider other spheres of existence:

Aesthetic mode. Indirect TuneTracker could allow users to quickly print off sequences of tunes being played at sessions, suggest what tunes the user should learn based on statistics collected, and report deviations from standard sets, etc. Videos could be provided of intense moments in the session (perhaps detected by quicker tempos and louder playing) to allow the reflective aesthetic to relieve past session moments.

Ethical mode. An Indirect TuneTracker that would resonate with the ethical musician could emphasize commitment, the moral order of sessions [9], respect for old masters, etc. Tune names could be published on a website with additional information such as the players’ names, what old masters played the tune, the regional variants, and links to audio recordings. The system could indicate what place the player has in the session (e.g., whether the session is too “advanced” for a player). An ethical system could also require the player to get a password from a local player in order to access the system’s records to expose the collaborative and locally public but globally private nature of sessions.

Religious mode. The illusion of Christendom that Kierkegaard was attempting to rail against is the illusion that blindly following laws and rules grants one religious faith. In the context of Irish traditional musicians, merely reading up on session etiquette and fulfilling one’s duty in playing, teaching, or preserving Irish traditional music is not enough to be a knight of faith nor resignation. In addition, Christendom conveys an unrealistically rosy picture of religion. Resignation and suffering are both sources of the religious sphere. TuneTracker is implicitly a positive system, conveying lists of tunes that anyone can conceivably play and thus become part of tradition. Instead, however, an Indirect TuneTracker could convey the hopelessness of becoming an authentic musician. For example, Indirect TuneTracker could list the innumerable tunes that are out there yet to be learned. Here Indirect TuneTracker serves to “wound” the players from behind by portraying the infiniteness that a player must strive for. It could convey the lengthy continued period that the same tunes are continually played. This may convince the player to give up on a commitment to learn many tunes for an absolute commitment to mastery of a few tunes. Then one must suffer—not necessarily physical pain but suffer by recognizing one’s dependence on God as a knight of resignation.

By supporting such modes, this hypothetical Indirect TuneTracker is able to indirectly communicate to people from different spheres of existence.

Lastly, an Indirect TuneTracker could point to ways to move from one existential sphere to another. Climacus describes boundary zones between spheres of existence. Humor is described as a boundary zone between the ethical and religious spheres. For those teetering on the edge of the ethical into the religious, humor offers a way to tolerate the suffering involved in the religious sphere. The humorist knows the contradiction between the finite and infinite, or the fact that in the real world it seems one has the power to do many things yet is powerless to do “anything by oneself to transform one’s existence into conformity with the ideal” [56, p.216]. An Indirect TuneTracker could ease the possibility of suffering proffered by the religious sphere by introducing elements of humor—showing the possibility of a knight of faith. Authenticity in traditional music is more than the music itself, and the camaraderie felt when musicians of all different walks of life play together shows an awareness that many of us strive for the impossible and perhaps can laugh at it all as well. We do not know how Indirect TuneTracker could convey humor, but the interviews with professional Irish traditional musicians by Su [51] revealed a particular lighthearted and cavalier attitude towards learning Irish music. This contrast between the high standards and respect demanded by seasoned musicians with the lax attitude towards the skill involved in music might somehow be captured and represented in an ironic, contradictory manner on Indirect TuneTracker.

TOUCHING UPON AUTHENTICITY IN HCI

Authenticity and similar concepts have been mentioned in HCI, CSCW, and media studies literature. Authenticity as a concept is often understood as something “natural” taken away by technology and a reason for limiting technology use, and it stands in contrast to deceptive practices afforded by online identity. Authenticity has also been taken to mean something inherent in “traditional” materials that modern, material objects lack. Although the scope of this paper limits a comprehensive survey of the domains that mention authenticity, we will discuss authenticity as related to its pervasiveness in everyday activities, disclosure and honesty in social media, and materiality.

The way in which new technologies seem to force us to meditate upon our everyday practices everywhere has been labeled by some a challenge to authenticity. Harmon and Mazmanian [29] describe an ongoing discourse between the benefits and detriments in choosing to increase technological integration or “dis-integrate” the smartphone from daily life. Similar to how Harmon and Mazmanian place smartphone tropes within idealized subject position trajectories (e.g., from Luddite to multitasker), our use of Kierkegaard’s spheres of existence can be seen as an attempt to reconcile various behaviors into modes of living authentically. Ames [2] observed that college students had to reconcile their own definition of what an authentic, natural relationship to others was with the authenticity forced upon them by the technological behaviors afforded by the mobile phone (e.g., constant connectivity and non face-to-face interactions). Each mobile user has his or her own conception of an “authentic” conversation (which may change depending on the context). Su and Wang [53] describe the role of mobile phones in the conversation of pubs. In some cases smartphones serve to enhance authenticity by creating richer conversations, but in other cases they ruin the spontaneity of debates by presenting hard facts (e.g., via Wikipedia searches). In studies to visually depict data in digital artwork in the house and in galleries, designers and artists faced challenges in maintaining and conveying the authenticity—the validity—of their data when mediated through technology [31, 57].
Social media has been the subject of studies that examine the intersection between online media and authenticity. Authenticity is oppositionally situated against activities of deception and lying [32] in domains such as online dating [28] and social media profiles [49]. In this regard, authenticity is a colloquial term for profile photos that truthfully and honestly depict their subject. Research has also investigated the online practices of celebrities and how they convey their “real-ness” to their fans and the public [16, 40]. Marwick and boyd’s [40] work is one of the few that draws from a philosophical work on authenticity. They use a definition of authenticity rooted in “passion and interiority” that Kierkegaard would likely sympathize with. However, they see authenticity as a social construct—for example, some social media such as Twitter demand more practices (e.g., tweets that are emotionally candid) that are (or seem) authentic. Here, the focus is on the ability of technologies to support both authentic and inauthentic practices of identity.

Lastly, there is work concerned with new forms of materiality and their authenticity. In a study of virtual possessions, Odom et al. [43] found their formlessness led to a perception of inauthenticity; they were less “real” than material possessions and were not unique objects. In a study of book restoration [45], authenticity was tied to respecting a book’s original condition (e.g., by allowing restorations to be reversible). The authors suggest future design may seek to create digital artifacts that similarly demand such respect from restorers.

These studies present an insightful—albeit, a kaleidoscopic—view of what people do to achieve authenticity (whether for themselves or some object) and what researchers understand as authenticity. However, authenticity itself—what it means for different people and how our actions are shaped by such meanings—is remarkably under-studied in HCI. Most of the research mentioned above engages with authenticity without any elaborate or substantial examinations of the meaning of authenticity in relation to previous work in philosophy or other disciplines. In this article, we have proposed one alternative approach, designing for authenticity, that makes authenticity the key concern when analyzing technology’s role in our humanity as well as in the design process.

OPEN INTERPRETATION VS. PRESCRIPTION

Designing for authenticity adopts some of the tenets of reflective design [47]. In particular, we find inspiration from Sengers et al.’s call to design systems that show the choices one makes in everyday activities and offer new, unexpected choices.

Yet, designing for authenticity is a prescriptive framework. The power of Kierkegaard’s writings lies from his conviction that the religious sphere is the life we ought to strive towards while acknowledging that few of us will achieve a place in it. The belief in our ultimate dependence on God guides his views on the positive and negative elements of each sphere of existence. Designing for authenticity adopts Kierkegaard’s method and belief, which are inseparable. Our analysis of Irish traditional musicians and the hypothetical design of Indirect TuneTracker is reflective, but it utilizes reflection as a strategy to guide and persuade our users to adopt a particular view of technology that complements the religious sphere of existence.

It is instructive to consider alternatives to our own approach. Sengers and Gaver [48] outlined an innovative approach to purposefully explore designs that are open to multiple interpretations. Designs that downplay the system’s authority and thwart any consistent interpretation, for example, are ways to give the user’s own interpretations equal footing to the designer. Many of these designs are exploratory and anarchic in character, embracing any number of possibly conflicting uses. Value-sensitive design (VSD) [24] emphasizes a tripartite methodology of conceptual, empirical, and technological investigations on values of moral import [55], such as human well-being. Borning and Muller’s thoughtful critique of VSD [10] states, “There are huge problems with both the position that there are some values that are or should be universally held...We suggest that VSD should take a more pluralistic position on this question of universal values, and simply say that this is a contested issue.” Approaches like these advocate open pluralistic interpretations not predetermined by any designer.

In contrast, designing for authenticity is a very rational approach to embracing a form of irrationality (the irrationality of the religious sphere) or openness but with a very clear goal and purpose. To employ this prescriptive framework requires a deep understanding of the design space. The ethnography of Irish traditional musicians and TuneTracker’s subsequent design and deployment gave the authors of that study a deep conviction on what an authentic life-view was and should be for these musicians. Our framing and re-imagining of Indirect TuneTracker seeks to convey this conviction. Designing for authenticity presents “a pluralistic position” on life-views and their contested nature (e.g., ethical vs. aesthetic life styles), but ultimately says that there are universal values we should seek. It also presents, even if indirect, how to go about achieving such values. To put it another way, a system embracing indirect communication presents several designs with an authoritative interpretation for the user to choose, although only one of those designs is the desired, authentic choice.

This does not mean that the only measure of success for the Indirect TuneTracker is when users reach the highest level of existence (the religious sphere). Existentialism posits our life is open-ended and subject to our choices; yet, “reflection by itself cannot determine choice” [21, p.20]. We must make existence a struggle by actively committing to unify our life [27]. Such a commitment requires one not to make decisions from a detached, scientific perspective, but emotionally and deeply—Kierkegaard called this seeing truth subjectively. Pursuing something passionately, even if false, is better than pursuing something apathetically. And, designing with indirect communication—leaving it up to the user to reach their own conclusions—has the potential to make a user passionately seek an authentic self. For example, though our Indirect TuneTracker may fail to guide our users to the religious sphere, we may claim some measure of success if its users passionately commit to a particular sphere (e.g., the aesthetic sphere).

We are not claiming that designing for authenticity is the framework for authenticity, nor are we discounting the merits of reflective design strategies. It is certainly useful, for example, when creating designs in new spaces and new forms or when
trying to escape subtle biases in design thinking to ensure that multiple interpretations from users are neutrally explored. However, if one has gained a deep, lengthy, and passionate understanding of a domain, designing for authenticity may provide a means to analyze and design with prescription as a goal. Kierkegaard’s philosophy and his notion of the aesthetic, ethical, and religious sphere, we believe, has universal relevance to any domain where technology intersects.

CONCLUSION: DESIGNING FOR AUTHENTICITY
Presumably, Kierkegaard did not intend his philosophy to be applied to different domains of everyday life (e.g., particular hobbies). The application of Kierkegaard to a specific ethnographic fieldsite necessitates changes in the interpretation of his philosophy, for example, when it comes to the notion of the “religious sphere.” Although there is no doubt that some famous composers (e.g., Haydn and Bach) have been inspired by the Christian God, this was not the notion that has been used in this study, nor does this study advocate a specific religious orientation (if at all). It is, however, not difficult to see how, just as with any religiously motivated work, one can learn a great deal from Kierkegaard. Noted Kierkegaard scholar Carlisle (a Buddhist herself) [12, p.156-157] suggests that if we were to remove the Christian element from Kierkegaard, we might “pay less attention to themes such as love and suffering which come so naturally to a Christian thinker.” If, as we believe, authenticity is about these themes of humanity, and moreover, its relationship with modern technology poses new challenges, we would do well to heed the guidance philosophy can provide in melding authenticity with interaction design [22].

What we have proposed in this paper is a means by which, colored by our own experiences, fieldwork, and readings of Kierkegaard, we can conceptualize and organize different patterns of living “authentically” with technology. Moreover, this conceptualization can help us to outline how technologies can be designed to indirectly communicate these modes of living for self-reflection. Through indirect communication, the user can passionately choose the best sphere of existence to adopt. Technologies that adopt designing for authenticity will reveal other spheres of existence, possibly prompting one to move from one sphere to another. Ultimately, designing for authenticity seeks to guide users into the religious sphere of existence. Thus, we believe designing for authenticity provides a powerful approach for not only puzzling out different philosophies of technology’s role in authenticity, but for designing technologies that present these philosophies in non-neutral ways.

Our approach brings to question the authority of designers. Studies have acknowledged that the designer’s views play a large (sometimes unconscious) role in shaping their creations, even if they embraced a user-centered approach [60, 23]. Moreover, the disciplines from which HCI practitioners draw their design methods naturally lead to systems with particular goals (e.g., constraining organizations [54]). Later iterations of VSD argue for better transparency regarding the designer’s own values [10]. So, in some sense, giving designers authority when it comes to values is not anything new. Although newer approaches to design may acknowledge the researchers’ or designers’ power, they typically impose a certain modesty in their authority. In contrast, designing for authenticity, the way we have developed it here, may be controversial because it not only seems to give the designer the right to impose their belief of authenticity on “hapless” users, it also gives the designer a method by which they can indirectly point to a specific lifestyle. The latter may be perceived as a disingenuous tactic because users are ostensibly presented with several spheres of existence from which they are free to strive for one—but yet, the designer’s intent, if following the Kierkegaardian thinking we have laid out, is to steer the user to the religious sphere.

The concerns around the authority of the designer in relation to authenticity are valid, important, and complicated. Therefore we do not see our presented approach to be the final word; instead, we see future opportunities to elaborate or extend designing for authenticity from a broad and more philosophical approach into concrete methods (as was done with VSD) or well-defined theory. However, we wish to note that designing for authenticity ultimately rests on the designer or researcher responsibly employing methods that give them a deep understanding of the domains they are creating for—i.e., embedding, critiquing, and reflecting longitudinally enough such that they can articulate an authentic life while acknowledging their inability to live up to the ideas and ideals their designs attempt to convey to their users. Part of this rigor involves, just as user-centered design does, “living” with and respecting users’ varied lifestyles with technology. Any approach that purports to address authenticity, we believe, needs to make transparent that living authentically with technology means to understand its complex, emotional, and sometimes irrational nature, and that communicating this difficult choice cannot be done simply (i.e., through direct communication). Lastly, our approach’s goal is not simply to push people into the “right” sphere. Instead it is important to see truth subjectively (cf. previous section) by attending to authenticity with verve—how you believe rather than what you believe is vital. This is a form of modesty, albeit different from past approaches.

Lastly, Kierkegaard’s philosophy provides one answer to, “What justifies designer action in authenticity?” Movements such as sustainability and ICT4D have successfully mobilized designer action through compelling, global arguments that humanity can rally around. Yet, authenticity is a deeply individualistic, variegated concept. To simply say that everyone has a different notion of authenticity is not enough—designers should responsibly (and rigorously) judge and act on what they think is the right way to live without judging the individuals themselves. These are precisely the actions that existential philosophers like Kierkegaard exemplify.

In sum, this paper was an effort to make sense of the varied opinions of authenticity found through both intensive fieldwork and a subsequent system developed with the intent to respect authenticity. Designing for authenticity allowed us to understand the ways in which we try our best to live fulfilling and worthwhile lives with technology. Designing with indirect communication is a concrete reification of not only our rigorous, respectful sympathy for people’s joys and struggles, but a particular belief of what an authentic life should be.
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