INTERNET COUNSELING PASTORAL RELATIONSHIP FOLLOWER (ICPRF) DATA PROCESS EARLY DETECTION

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ABSTRACT

The church as a spiritual and social institution plays an important role in the life of society. In it, various ministry processes are carried out to meet the spiritual and social needs of the congregation to improve the effectiveness and efficiency of church services, a deep understanding of the performance of the ministry process becomes very important. That's why process mining, a revolutionary approach to data analysis, exists as an invaluable tool to help uncover potential improvements in church ministry. Early detection is the process or attempt to identify a problem, disease, risk, or event early, usually before more serious symptoms or impacts appear. The main goal of early detection is to take appropriate action as quickly as possible so that problems can be addressed or managed more effectively, and their negative impact can be minimized.
Keywords: iCPRF, Detexi Dini, HCI, Data Process

INTRODUCTION

The Maluku Protestant Church has become one of the main actors in utilizing Process Mining to understand and optimize the performance of its ministry process. In this context, process mining is a technique that utilizes the data generated during the service process to form a better understanding of how the process works. Using sophisticated data analysis tools and techniques, Process Mining reveals critical aspects of the church ministry process. This includes how ministry activities are conducted, measured, and evaluated. The results of Process Mining analysis allow churches to identify potential bottlenecks, overloads, or even misalignments with their ministry goals.

In addition, Process Mining also allows churches to plan for change more effectively. With a deeper understanding of the performance of the ministry process, the church can take appropriate actions to improve efficiency, improve the congregation experience, and better achieve its ministry goals in this introduction, we will explore more deeply how Process Mining is used in the context of the Moluccan Protestant Church to understand the performance of the ministry process. We will look at how ministry data can be turned into valuable insights, and how it can help churches to plan significant improvements in their ministry.

Through the use of Process Mining, the performance of each business process, knowing whether some bottlenecks or processes are not running effectively in the entire business process, and knowing what things can be improved in the overall process. Through the log data, the mining process creates a process model. From here, the end-to-end process is researched and details will be outlined. Special algorithms can also provide insight into the root of problems that exist in a business process. By doing process mining, the Church can also make data-driven decisions to make a process more optimal.

RESEARCH METHOD

The material used in this study is a database dataset of the Maluku Protestant Church which is provided privately (Available online at msipt.sinodegpm.id). The tools used in this study are PHP programming language software to perform calculations and data analysis.

RESULTS AND DISCUSSION

Model Internet Counseling Pastoral Relationship Follower

The iCPRF model is a form of conversation or pastoral counseling of congregations and Special Ministers (Pastors) that takes place within one scope of church ministry but does not rule out the possibility of counseling communication from everyone who has different faiths (Indra Manjaruni, 2013).

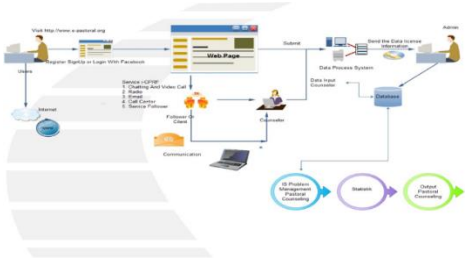

Figure 1 iCPRF Modeling

Data Process

Data processing is the process of collecting raw data and transforming that data into information. Data obtained in raw form and has not been processed is data that is not useful to anyone. Therefore, to make data useful, data processing is needed to be used.

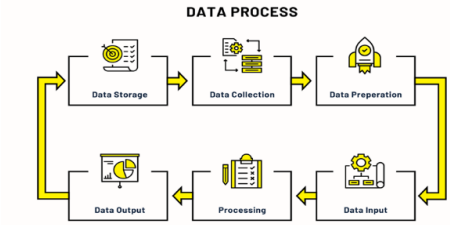

Figure 2 Data processing stages

Early Detection Instruments

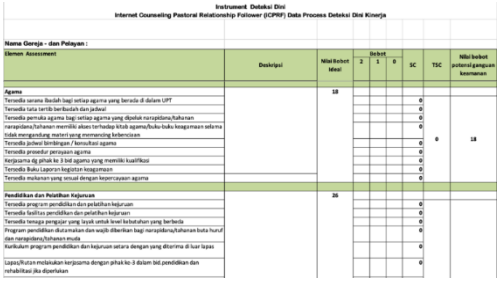

Figure 3 Early Detection Instruments

Early Detection Methods

Kecenderungan Pemahaman Petugas terhadap Tupoksi Pemasyarakatan	Range	Persentase
Petugas tidak sepenuhnya mengenali prosedur dan regulasi pemasyarakatan	0 <= x < 25	0,00%
Petugas memahami Proses Pemasyarakatan	25 <= x < 50	
Petugas menjalankan tupoksi secara konsisten	50 <= x < 75	
Mampu mengatasi Permasalahan di bidang Pemasyarakatan (memiliki deteksi dini)	75<= x <100	

Presentase untuk narapidana/tahanan = 100% - (Total TSC/Total Nilai Bobot Ideal)
= 1,0

Kecenderungan perilaku narapidana/tahanan	Range	Persentase
Ko operatif	0 <= x < 17	
Secara verbal resistif	17 <= x < 34	
Secara fisik tidak kooperatif	34 <= x <51	
Berisiko Menyerang	51 <= x < 68	
Potensi menimbulkan kerusakan fisik atau kematian	68 <= x < 85	
Berisiko Melarikan diri	85 <= x <= 100	100,00%

SC = Score
TSC = Total Score
Bobot 2 jika benar-benar Terpenuhi atau tidak dapat diterapkan
Bobot 1 jika Terpenuhi Sebagian
Bobot 0 jika tidak terpenuhi
Yang berwarna merah bersifat absolut, hanya bisa terpenuhi atau tidak terpenuhi

Figure 4 Design of proposed Process Mining Church method

Social Network Interaction

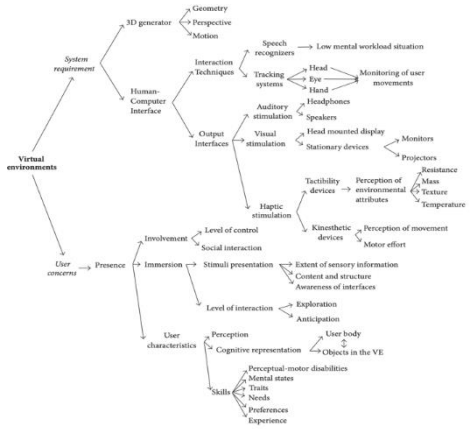

Figure 5. Social Network Interaction

Humans have a clear perception of their environment despite their limited sensory system. Due to the wonderful signal processing of the nervous system, which constantly updates human reactions, any human individual can perform complex activities. For example, a person can recognize and classify a large number of sounds that converge in the surrounding space. Therefore, it is a difficult task to undertake developing VE that produces synthetic visual, auditory, and haptic sensations, which can deceive human perception. VE has two basic elements: system requirements and user attention [5]. Figure 1 provides a summary of all the components that fall into these two categories.

Concerning system requirements, VE generally requires a 3D generator and HCI. The 3D generator consists of modeling and animation of 3D objects with the following criteria: (1) geometry, definition of visual appearance, sound, smell, taste, and/or texture of each object in VE; (2) perspective, the spatial relationship between geometry and the user; and (3) motion, geometric changes in response to user actions and time progress. Regarding HCI, there is an output interface to stimulate the user's senses and interaction techniques to decode the user's desires. Output interfaces are classified as auditory, visual, and haptic.

Brain-Computer Pastoral

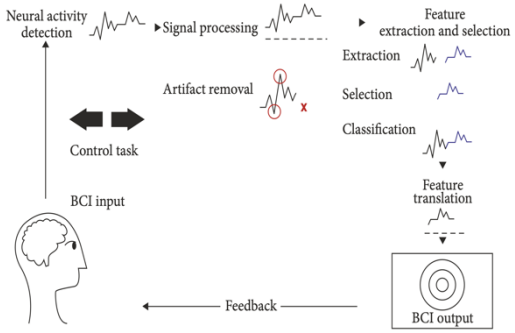

Figure 7 Computer Brain Pastoral Interaction (Lotte & Jeunet, 2015)

BCP Computer Brain Interface is a nonmuscular communication channel that seeks to re-establish interaction between individuals and their environment (Lotte et al., 2013). The BCP system involves two stages calibration (offline analysis) and control (online analysis) with the first referring to the process of training machines to recognize different brain patterns of users and the second concerned with controlling the desired device through a trained machine (Jeunet et al., 2014). The essential functions of BCP are as follows: A user is a person who controls a device in the system by modifying his brain state through external stimuli (e.g. visual, auditory, or tactile stimuli) or internal stimuli (e.g. mental tasks) (Wolpaw et al., 2002). These modulations of brain activity are perceived, amplified, processed, displayed, and stored in two different ways, invasive and noninvasive. The most commonly used invasive recording method is electrocorticography, while some examples of noninvasive methods are electro-sense filmography (EEG), functional magnetic resonance imaging, and near-infrared spectroscopy. However, EEG has become a widely used method in the BCP community. Once the brain signal is obtained, the feature generator emphasizes the relevant neurophysiological features and generates a vector of the feature in the domain of time, frequency, space, or even its domain. The feature interpreter then tries to distinguish between control and non-control states and translates the classifier output into control commands. Control modules and device controllers convert control commands into semantic control signals for specific devices. Figure 7 illustrates the structure of the BCI system (Boostani et al., 2007).

CONCLUSION

iCPRF is a part of computer-based tools designed to provide interaction between humans or so-called human and computer interaction. Interactions that take place cognitively undergo logical internalization to then provide eyeing or problems according to the category of pastoral counseling problems that occur. So that with an early detection approach, this paper can contribute or predict related to one case that will be faced so that we can minimize the risks to be faced. This paper wants to make a new approach to the Church ministry environment to be able to read the flow of ministry activities in the church objectively related to early detection data to present a pastoral approach pastorally to measure the performance of Church Special services.

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