

# DS2A: A Dialogue System for Sexual Assault and Harassment Education

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## Abstract

We introduce the Digital Survivor of Sexual Assault system (DS2A), a dialogue agent designed for the U.S. Army’s Sexual Harassment and Assault Response and Prevention program (SHARP). DS2A uses video recordings of an actual sexual assault survivor, in conjunction with a spoken dialogue system platform to produce a realistic and engaging interaction, designed to educate and inform members of the US military about sexual harassment and sexual assault.

## 1 Introduction

In today’s cultural landscape, phenomena such as the #metoo movement have shown that the issues of sexual harassment and assault permeate every facet of society, and the Military is not immune to their effects. In a RAND Corporation report from 2014, it was estimated that approximately 20,000 active-duty military members experienced at least one sexual assault during that year (National Defense Research Institute, 2014). These numbers equate to roughly 5% of all enlisted women, and 1% of enlisted men.

However, the Army has been taking steps to try to address these issues, creating task forces to investigate prevention strategies leading to the creation of the Sexual Assault Prevention and Response office (SAPRO) in 2005, and the Sexual Harassment and Assault Response and Prevention program (SHARP) in 2008 (Army, 2018, 2011). The SHARP program is an Army-wide effort to educate soldiers at all levels, in an effort to prevent Sexual Harassment and Assault.

The Digital Survivor of Sexual Assault system (DS2A) is an engaging, interactive dialogue system, featuring SPC Jarett Wright, who is a male survivor of sexual harassment and assault in the Army. The system uses pre-recorded audio and



Figure 1: The DS2A system in use at the Army SHARP Academy in Ft. Leavenworth, Kansas. Photo Credit: Stephen P. Kretsinger Sr.

video, in conjunction with Natural Language Processing technology to create a dialogue system, capable of answering questions related to sexual assault, the Army in general, as well as Jarett’s life before and after the Army.

DS2A was commissioned by the U.S. Army SHARP Academy in Ft. Leavenworth, Kansas, which is the Army’s national training facility for Sexual Assault Response Coordinators (SARCs) and Victim Advocates (VAs). SARCs and VAs are usually the first line of outreach for soldiers who have been victims of sexual harassment or sexual assault, and as such they need to be trained to be sensitive to their needs. Interacting with real victims is seen as a vital component of this training. However, finding victims who are willing and able to tell their stories in person can be challenging. One solution is to use actors to role-play sexual assault victims, however hiring actors can be a big financial drain as well. The DS2A system solves both of these issues by offering a system capable of recreating the experience of talking to a real victim.

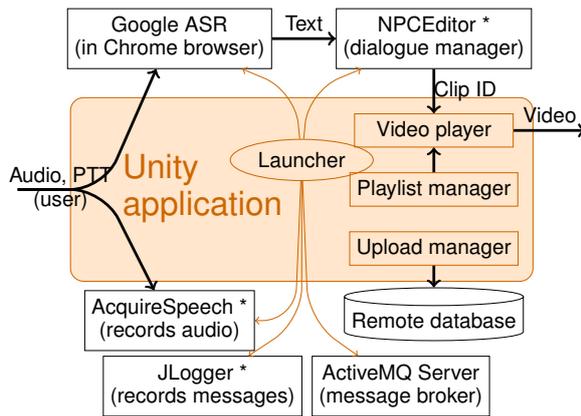


Figure 2: System architecture (\* = Toolkit component)

## 2 Technical description

The DS2A system is designed as an integrated application in the Unity game engine (<https://unity3d.com>); it incorporates several components from the USC ICT Virtual Human Toolkit (Hartholt et al., 2013), which is publicly available (<http://vhtoolkit.ict.usc.edu>). The overall system architecture is shown in Figure 2; a more detailed description is given in Artstein et al. (2019).

## 3 System Use

The DS2A system is used in the Army SHARP Academy’s training course for SARCs and VAs. Students sit in a room with Jarett displayed on a screen and a SHARP academy trainer facilitates a dialogue between Jarett and the students (see figure 1). Students are free to ask their own questions, in their own words, and hear Jarett’s responses in real time.

Student engagement is a vital aspect of this type of education, which seeks to effect behavioral change, and during the development of the system, many lower enlisted soldiers had the opportunity to interact with DS2A. In informal interviews conducted after their interactions, soldiers reported that the system was indeed engaging, and impactful.

Recently the system was demonstrated for over 1500 soldiers at Ft. Polk, Louisiana, where the overwhelming positive response further demonstrated the system’s ability to provide an engaging educational experience. There are also plans to take the system nationwide, to help educate not only SARCs and VA’s but also enhance the regular SHARP training provided to Officers, regular

enlisted soldiers and even civilian personnel.

## 4 Demo Description

A demonstration of the DS2A system will involve real-time interaction between participants and SPC Jarett Wright. Jarett can be displayed on a laptop, or an external monitor. Participants will be free to ask their own questions directly to Jarett using a microphone, or have a demonstrator relay them. These interactions will demonstrate the engaging and immersive experience of talking to Jarett, and the DS2A system’s ability to present this important information in an emotionally compelling way.

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## References

- U.S. Army. 2011. [Sexual harassment/assault response and prevention program](#). Retrieved 2019-07-16.
- U.S. Army. 2018. [Sapro mission & history](#). Retrieved 2018-09-21.
- Ron Artstein, Carla Gordon, Usman Sohail, Chirag Merchant, Andrew Jones, Julia Campbell, Matthew Trimmer, Jeffrey Bevington, COL Christopher Engen, and David Traum. 2019. [Digital survivor of sexual assault](#). In *IUI '19: Proceedings of the 24th International Conference on Intelligent User Interfaces*, pages 417–425, Marina del Rey, California. ACM.
- Arno Hartholt, David Traum, Stacy C. Marsella, Ari Shapiro, Giota Stratou, Anton Leuski, Louis-Philippe Morency, and Jonathan Gratch. 2013. [All together now: Introducing the virtual human toolkit](#). In *Intelligent Virtual Agents: 13th International Conference, IVA 2013, Edinburgh, UK, August 29–31, 2013 Proceedings*, pages 368–381. Springer, Heidelberg.
- National Defense Research Institute. 2014. [Sexual assault and sexual harassment in the U.S. military: Top-line estimates for active-duty service members from the 2014 rand military workplace study](#). Research Report RR-870-OSD, RAND Corporation, Santa Monica, California.