

## **Storyline of The Disappearance of Sarah Adams Case**

Day 1:

Sarah was excited to have a fun and chilling sleepover with her friends Evelyn, Madilynn, and Josh at Evelyn's house that night. They played many fun games, watched YouTube videos, and did some TikTok trends. Everyone had a great time, and it was all posted on social media.

Sarah had noticed Evelyn being distant since an incident at their university, she has been more anxious and unlike herself lately. After deciding it was movie time, Sarah received a text message from their classmate Kristy. Sarah's mood had shifted instantly, remembering their last few conversations of Kristy warning Sarah about her close group of friends and had ended it with informing her about the involvement of one of her close friends in the university incident, which was a sensitive data breach, keeping the person who participated in that crime mysterious. Sarah was shocked by the context of the message, she didn't care why Kristy would reveal this now, but she had only focused on the name of her friend, Evelyn, who was the one associated with causing the data breach. Sarah knew Evelyn was acting weird because surely something had happened, but she didn't know it would be her who Kristy had talked about.

Sarah decided she must talk to Evelyn alone and try to warn her about how wrong what she did was and the trouble she could get in. Sarah confronted Evelyn when they were in the kitchen preparing popcorn and suggested that Evelyn should take responsibility for what she has committed wrongly and confess to the dean then apologize for her unacademic behavior. Evelyn didn't imagine her friend would suggest such a thing and got angry. She was furious not only because her friend found out about her secret, but also because she could get her in trouble by trying to fix her situation.

The two girls end up having a heated conversation where their volume gets loud, Josh came to check in on them when he found out about Evelyn's secret, surprisingly Sarah noticed that he wasn't fully shocked with the information instead, he was defensive over Evelyn, but Sarah let it slide not trying to think much about it.

After that, they promise to talk about it the next day while there was tension during the rest of the sleepover.

At some point during the first movie, Madilynn had to leave due to a family emergency at home near midnight. Josh had to drive her since she didn't have a car and only Sarah and Evelyn remained at the sleepover. When the movie ended, Sarah decided she should leave as well since she was not in the mood anymore and no one had stayed.

Evelyn had her emotions heightened, all worried, anxious, and paranoid of Sarah leaving with her secret, in the heat of moment she reacted violently and hit Sarah by the vase fearing she would ruin her future. Evelyn stared at Sarah's unconscious body on the ground, stunned by what she had done. Acting on impulse, Evelyn dragged Sarah's body and left her locked up in the basement storage room.

Day 2:

During the whole time since Evelyn had knocked Sarah out cold till the sun rises the next morning, she hadn't blinked an eye from the door of the storage room. She had been thinking all morning about what her next step would be and how she could get out of this situation unharmed. Evelyn reached the conclusion that she must persuade Sarah not to say a word about what she had found out and all would be fine. Sarah woke up dizzy and confused at late afternoon, she remembered the events of last night almost immediately when she realized that Evelyn must have hit her from behind when she tried to leave. Evelyn tried to convince Sarah all afternoon, lashing out a few times and leaving her locked up then coming back to talk when she calms a bit. At the end of the night, Sarah had her mind set on how serious Evelyn's problem is and that she could discuss it with someone to reduce her possible punishment. Evelyn's fear of getting exposed took over her mentality and she got even more disoriented. At last, due to disagreement, Evelyn forced Sarah to inhale through a cloth soaked with a sedative drug to let her faint for a few hours. She next managed to carry Sarah's body to her car and drove deep into the woods and tied her to a tree.

Day 3:

Sarah returned to her conscious with a severe headache, finding herself bound up to a tree almost at sunrise. She tried getting her restraints to loosen up for a long time to be able to get up. She then identified a sharp object near her outstretched legs and tried to reach for it to cut off the ropes. Sarah later managed to escape the confines after hours of trying in the early morning. She wanders off to find a way out of the woods, and it's then when she was announced missing that morning.

## **Clarifying Challenges**

### **1. Witness Testimony Analysis:**

Participants will start the investigation by analyzing witness testimonies. They will go through several statements of people who have been last in contact with Sarah; these statements will offer conflicting perspectives on Sarah's relationships with Madilynn, Josh, Kristy, Evelyn, and Ethan. Participants must go through each statement to detect sentiment cues

and identify keywords to reveal hidden secrets. Madilynn seems anxious for her friend, Josh acts defensive, Kristy is evasive, Evelyn is emotional, and Ethan is strangely calm. The investigation will then continue keeping in mind specific actions in given statements to connect them with other evidence and facts.

## **2. AI-Based Clue Identification in Images:**

Participants are going to work on analyzing surveillance footage and crime scene images and try to find anomalies. Pictures of most locations Sarah has been to the last couple of days must be provided. Mainly from Evelyn's home, from the camera in the garage, participants can detect the abnormal road action of Evelyn's car late at midnight. Participants must also identify some clues by comparing pictures taken for evidence and pictures in social media during the sleepover, where the vase that Evelyn had hit Sarah with has gone missing. And from images in the basement, participants must detect the cloth and the sedative drug in the garbage can. In addition to social media posts, Ethan could be seen in the background chatting with Josh in some of the girls' pictures when he was not mentioned during the sleepover. His role remains ambiguous, encouraging deeper investigation.

## **3. Digital Footprint Pattern Recognition:**

In this step, participants will dig through Sarah's phone records and discover unusual patterns of digital activity. They must track her online pattern to detect changes in her typical online behavior. Anomalies of her research would appear after a few conversations with Kristy, a few days before the sleepover. Sarah would be searching articles of "reasons for a data breach", "how to know your friend is hiding a secret", "what are the possible consequences for causing a university level data breach". All of which are sudden changes of topics she would read about, leading detectives to think one of her friends was responsible and she had found out about it at some point before she went missing.

## **4. AI-Powered Text Message Decoding:**

Next, participants will act as tech detectives and work on going through Sarah's phone, which was seized for evidence from Evelyn's home. The messages' data on Sarah's phone were damaged due to Evelyn dropping it in the mud while she was dragging Sarah's body to a tree in the woods. Participants would have to decrypt the messages to figure out what conversations she had. The decoding reveals underlying tensions, and suspicion shifts towards Kristy, who has an enmity going on with Evelyn, which is why she outs her secret to her friend to ruin their bond not knowing it will end badly, even though she claims it's to warn Sarah about Evelyn's actions. More specifically, participants will figure out from Sarah's messages log with Kristy that Kristy had knowledge about the university's data breach and told Sarah the person responsible for it at the sleepover, however they wouldn't be able to

decrypt the part where Evelyn's name is mentioned. This will identify Kristy as a suspect because she didn't mention the data breach in her testimony and her knowing the person responsible without acknowledging how she figured out. Creating a possibility of her being responsible for Sarah's disappearance.

### **5. Predicting the Missing Person's Next Location:**

Participants are tasked with predicting Sarah's possible current stop to be able to get hold of Sarah immediately. They'll have to narrow the suspects list to Kristy, as she had confirmed in her statement that she knows that Evelyn is behind the data breach and she wanted to ruin her career through her friend, then Evelyn, who after bringing her again for further investigations, had confessed being the one who caused Sarah's disappearance. Telling the participants that she had led her to the woods and left her there. Locations near the woods are going to be provided for participants, where Sarah's location would be figured out by predicting the one she would choose based on her state.

Places near the woods: a small cabin around the area Evelyn has left Sarah in, an abandoned hotel further on the road leading out of the woods, and a restaurant on the outskirts of the town.

Participants should identify the small cabin as the location to look for Sarah in, seeing as it is the nearest to the place she was last in and her exhausted state seeking shelter.

## **Conclusion**

As participants work through the challenges, they uncover some lies and secrets told in testimonies of Sarah's associates. Finding out more about their connections by tracking her digital footprint and message decryption, then discovering a huge secret from one of her friends, labeling them as the lead suspect. Finally, the investigation will conclude as participants solve the mystery of Sarah's whereabouts and try to predict her location from previous clues.