

METAMORPHOSIS: Immersive Kafka

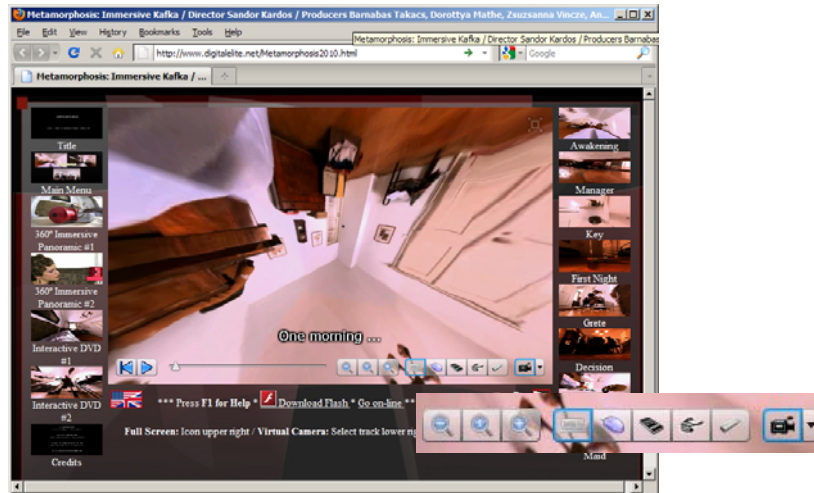
This *experimental short film* is an authentic adaptation of Kafka's famous story where Gregor Samsa one morning finds himself transformed in his bed into a gigantic insect.

- **First Person Story:** The film tells the story using a *subjective camera*, we only see what happens from Gregor's perspective, i.e. through the eyes of a bug.
- **360° Panoramic Camera:** It was *shot entirely with a 360° spherical camera* (called PanoCAST see www.PanoCAST.com) to create the closest feeling of being a bug.
- **Theatrical version:** We used the original digital recordings to create a (see enclosed DVD) where the *360° views were transformed to a flat projected scene* to create visually intriguing scenes and shots that match the inner world of the character as it develops and would have been very difficult to create otherwise. The overall result of this process is an instantly recognizable look and feel as shown in the sample stills from the film below.



- **Immersive Interactive Media:** To create an *immersive interactive film experience* using the same panoramic footage we created a *spherical video player* using *Flash*, that is accessible via the Internet or may be installed on a computer locally. In this mode *viewers are allowed to control camera parameters* where they look interactively and individually thereby exploring the content of the film even clicking on the actors and learning more about the film and the story. The on-line version, a screenshot of which is shown below, is available for review only using the following link:

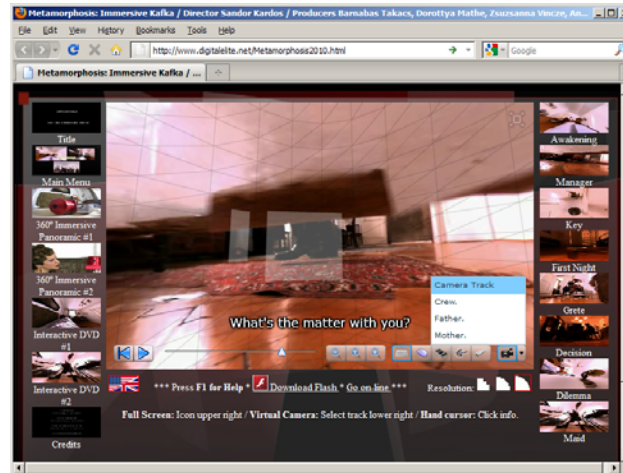
http://www.digitalelite.net/Metamorphosis2010_Fullversion.html



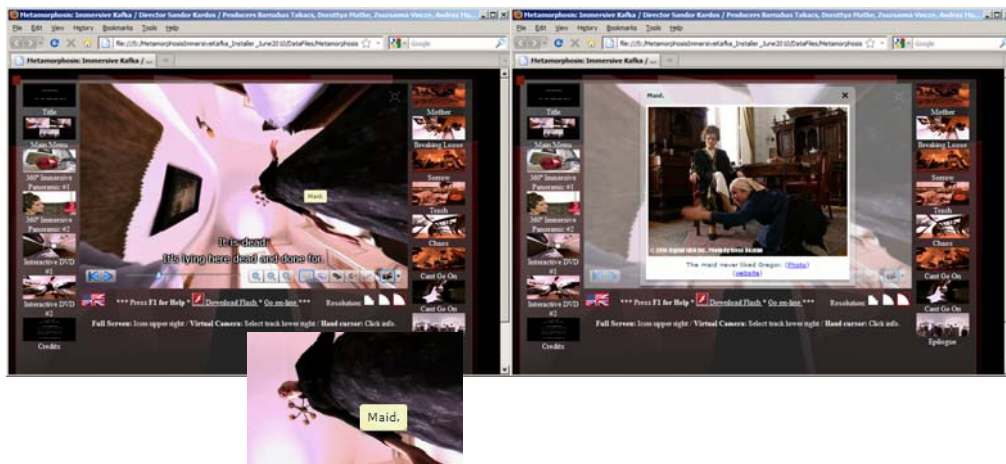
To represent the original artistic value of the film, in passive mode, i.e. when viewers do not want to take control, they see exactly how the film was originally meant to be seen, yet when they decide to turn their attention to somewhere else, they can literally “*enter that world*” and feel as if they are in the very center of the action. This functionality is accessed from the *control bar* as seen enlarged above. The player automatically recognizes the devices attached to the computer that may be used to rotate the camera, including not only the keyboard and mouse, but more advanced interfaces such as an *IPhone/Android*, *Wii* or *Virtual Reality glasses (HMD)*. The *IPhone/Android* interface connects via *WiFi* and uses the phone’s built in *accelerometer* to control the virtual camera’s rotation and the touch screen to allow mouse movements and clicking on the actors. Similarly, the *Wii* controller, that connects via *BlueTooth*, also uses the *accelerometer* in combination with the programmable keys, and finally the *Virtual Reality glasses* allow users to *freely look around* and experience the story, when using the player in *Full Screen* mode. This is shown next.



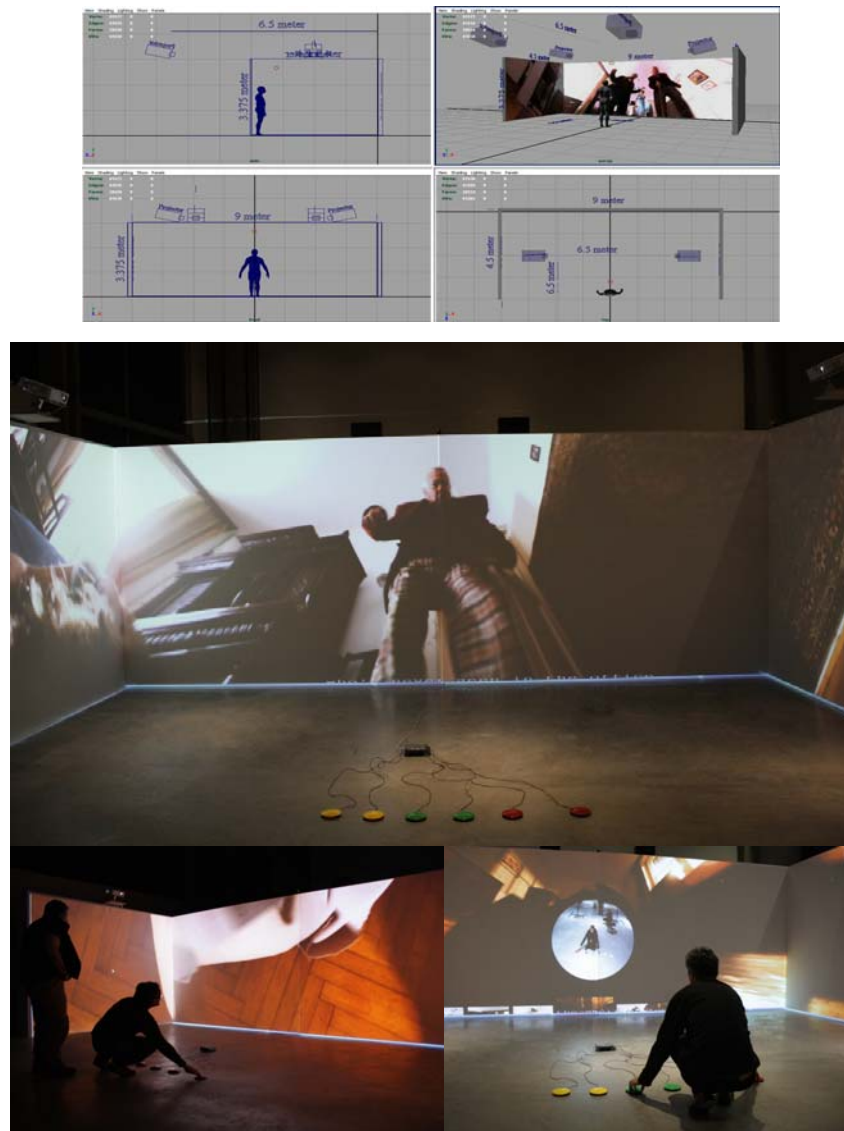
- **Clickable Content & Hot Spots:** Through out the entire length of the move each actor and several objects were tracked both in the “flat” version (*called Interactive DVD*) as well as in 360° scenes (*360° Immersive Panoramic*). In every moment of the film the actors currently present or visible may be selected by the viewer using the control bar (see figure below) and followed by the virtual camera as they move around the set. If they disappear, the camera turns back to the original track, but when they reappear again, it will track them again. Choosing the *Camera Track* will take them back to the original camera moves and the way the Director intended them to see the movie.



In the figure above the tracked panels are shown in Debug mode for demonstration purposes only. During normal playback (see next figure) by simply moving the cursor over a character, it will display *tooltips* indicating the name of the character and that additional information may be available. Labels may also change over time, thus providing new information as the story progresses. When an actor is clicked, an information window (Callout) with a short description, photos, videos, etc. appear. This feature allows users to learn more about the story, e.g. several layers of the original book may be accessed, or sometimes simply just to get a “behind-the-scenes” glimpse of how the movie was created.



- **Installation / Large format interactive version:** Due to the spherical nature of the original footage it is also possible to show the movie in a *large format artistic installation* as demonstrated in Figures below. Here the audience is surrounded by a U-shaped projector screen with 4 independent virtual camera views to provide full immersion and enhance the overall experience using peripheral vision. Again, here the original camera tracks as intended by the director are used to control the motion of the virtual camera, but a set of buttons placed on the floor allow visitors to jointly rotate it and explore various angles together while the film is being played. In the tiny blind-spot of the spherical camera a live web-camera image directed at the audience itself is shown, conveying the *utopistic yet still timely message for all of us that Gregor in reality is no one else, but ourselves.*



Further information is available at the website ([White Paper](#), [Additional video materials](#), etc.)