

'Space-Art-Rescue', a Satellite Based Alarm System & Disaster Reduction.

INTRODUCTION

Living on our planet today clearly requires a lot more imagination than we are made to have. Imagination is a specialism to Art and other risk-thinking and it is this connection that we enterprise our vision.

Satellite Art Works (S.A.W.) works with shortcomings in the communication and dissemination of alertness in advance of impending disaster situations at local community level within developing countries focusing on satellite solutions in a user-need oriented approach.

As artists we work with advanced technology concepts in continuous transfer with scientists and other specialists. It is this twinning of Art and Space solutions that results in work that we call 'Space-Art-Rescue'.

Satellite Art Works (S.A.W.) volunteers an ethical, practical and creative tool in responding to people at risk in on-going disasters, natural or human in origin.

CHARACTERISTICS OF 'Space-Art-Rescue'

As a Space-Based Solution this concept offers the following characteristics:

Multi-Capacity: that 'Space-Art-Rescue' offers the possibility of adaptability and flexibility of response to the disaster hazard.

Non-Earth Bound: that 'Space-Art-Rescue' offers as far as possible an independent, autonomous and de-centralised system from ground level resource in the event of lack of already existing communication systems, existing system destruction or disruption caused by civil or military unrest.

Integrity: that 'Space-Art-Rescue' offers the ability to conjure detail. For example: to time of day, speed, cultural sensitivity, use of existing local resources, material and knowledge.

Co-ordinated: that 'Space-Art-Rescue' be viewed as part of a collaborative response from the multi-media communications community to create future links in a global warning system (i.e. global alert messaging system for mobile phones and in the world-wide web); this includes co-ordination within national systems of early warning. In addition, grass-roots communications and corresponding disaster management training programmes within an early warning system, as vitally significant.

PROJECT GOAL

Our project goal short-term is the development of an emergency warning technology at local community level within developing countries. This Unit is called: MuSWa (Multiple-Function Swarm Warning).

Our vision longer term is the creation of socio-cultural sensitive and innovative devices, a general public and personal emergency warning technology as part of real-time emergency management via satellite based alarm system.

This poster provides background from our literature so far and some of the possible directions for our project proposal in the coming months. Disincluded is reference to systems operating method.

DESCRIPTION OF NEAR TECHNOLOGY PROJECT - MuSWa (Multiple-Function Swarm Warning)

1. Description: Satellite controlled Unmanned Aerial Vehicles with LED.
2. How it Functions: The Swarm Unit is controlled via computer instructed from Satellite Based Alarm System as part of preparedness in early warning for disasters. The MuSWa is designed to be located in aviary bases, satellite operated and manned if necessary, by unqualified staff.
3. Design Intention: The MuSWa is deliberately designed to reflect Disaster Necessity in the following ways:
 - As a multi-functioning and multi-response technology reflecting pre / run-time / post-disaster necessity.
 - As a continuous multi-flight relief re-load system.
 - As a response system that has 'Anywhere Visit' ability.
4. Capability Intention:
 - Pre-Disaster: The Swarm Unit flies in formation to pattern warning signal and/or sign direction to safety for people below.
 - Run-time of Disaster: The Swarm Unit offers an installation for local communication networks to replace overwhelmed telecommunication systems under instruction from initial satellite information; this includes assisting relief workers and a safe method to survey when conditions are hazardous, whilst flying in continuous loop.
 - Post-Disaster: The Swarm Unit offers flexibility of function which includes flight flocking to record ground activity by camera and also drop facility of emergency medical supplies.
5. Advantages:
 - A 'grass roots' autonomous warning system that mimics aerial imagery found in nature.
 - The possibility to signal sound.
 - Simplicity in learning how this warning functions.
 - Multi-capacity in terms of functioning.
 - Adaptivity due to satellite control.
 - Ease of transport.
 - Loss of one member of swarm not effect functioning of unit.
 - Minimal injury to citizens when one member falls because of non-dangerous material and structure.
 - Unmanned and no loss of life or harm via injury.
6. Location: Remote, isolated conditions, rural areas, developing countries, risk hot spots.
7. Disaster: Natural and man-made disaster, ie - earth-quake, post-tsunami, flooding, fire.
8. Disadvantages: At present in extreme weather conditions.
9. Comment: Recommended is for use of a minimum of 2 swarm units.

ISSUES: DEVELOPING ALERT DEVICES WITHIN EARLY WARNING SYSTEMS IN DEVELOPING COUNTRIES

- Sustainability in terms of energy.
- Gender perspective and cultural diversity - it is essential to recognise that different groups have different vulnerabilities according to culture, gender or to other characteristics that influence their capacity to effectively prepare for, prevent and respond to disasters.
- Women and men often play different roles in society in disaster situations. In addition, the elderly, disabled and socio-economically disadvantaged are often more vulnerable.
- The messages are devised to contain simple, useful information.

Our devices are intended as part of use in multiple communication channels, necessary to ensure as many people as possible are warned in order to avoid failure of any one channel which must be part of vertical and horizontal communication and co-ordination between early warning stakeholders.

Kunst werde schon bald „mit einer Bildungselite, „Publikum“ genannt ... zum Aussterben allein sein, es sei denn, sie faende den Weg zum „Volk“, das heisst, um es unromantisch auszudruecken, zu den Massen. Viel melancholische Ambition wird von ihr abfallen und eine neue Unschuld, ja Harmlosigkeit ihr Teil sein. Die Zukunft wird in ihr - sie selbst wird in sich die Dienerin sehen an einer Gemeinschaft, die weit mehr als „Bildung“ umfassen und Kultur nicht haben, vielleicht aber dergleichen sein wird.“ (deutsch)

Art will soon, with an educational elite called „audience“... , die out alone unless it can find its way to the „people“; that is, to express itself unromantically to the masses. It will loose a lot of melancholic ambition, a new innocence, even harmlessness will partake in it. The future will see in Art - Art will see in itself the servant of a community, that will cover much more than „education“ and won't have culture, but may be will be it.“ (english)

Thomas Mann

INTERDISCIPLINARY RESEARCH TECHNIQUES

- Open-ended questioning.
- Shared learning dialogue: This provides for an immediate mechanism for feedback and helps to close the loop between knowledge generation, testing, dissemination and application.
- Social Anthropology and its methodologies.
- The Science of Uncertainty: Providing a philosophical dialogue - neutral exchange between artists, scientists and other experts.
- Language: adopting the suggestion within the Hyogo Framework to use their 'standard' language for descriptions of terms and references to Disaster Reduction et al, in order to cohere an international understanding and direction.

VISUALITY

- Multi-cultural astronomy: The variety of ways in which cultures of the past and present have observed the night skies and made use of the astronomy to structure their lives.
- Design developments in the world wide web: Involving an examination of globalised versus localised design usage and communication considerations that are savvy to the idiosyncracies of localization.
- Nature: processes, structures, forms and evolution
- Art: media, concepts and context.

WHAT IS THE DEFINITION OF 'SPACE ART'?

„Contemporary art which relies on space activity for its implementation.“

1. Fine art which exploits sensory experiences generated through space exploration. New landscapes become accessible through space photography and film. Space illustrators anticipated some of these and make use of the photographic record from space exploration.
2. Art which expresses the new psychological and philosophical conceptions developed through the exploration of space. The primary example of this is the concept of the Earth as a whole system - a concept made concrete by the first views of the whole Earth seen from space.
3. Art in space, viewed from Earth.
4. Art on Earth, viewed from space.
5. Art in space, viewed in space.
6. The applied arts such as space architecture, interior design and furniture design.
7. Fine art which takes advantage of new technologies and materials created through space activities. The most important of these make use of satellite systems to create simultaneous global artworks.“

Roger F. Malina

ISU's 12th Annual Symposium „Space Solutions to Earth's Global Challenges“
Wednesday 20th to Friday 22nd February 2008, ISU Central Campus, Strasbourg.