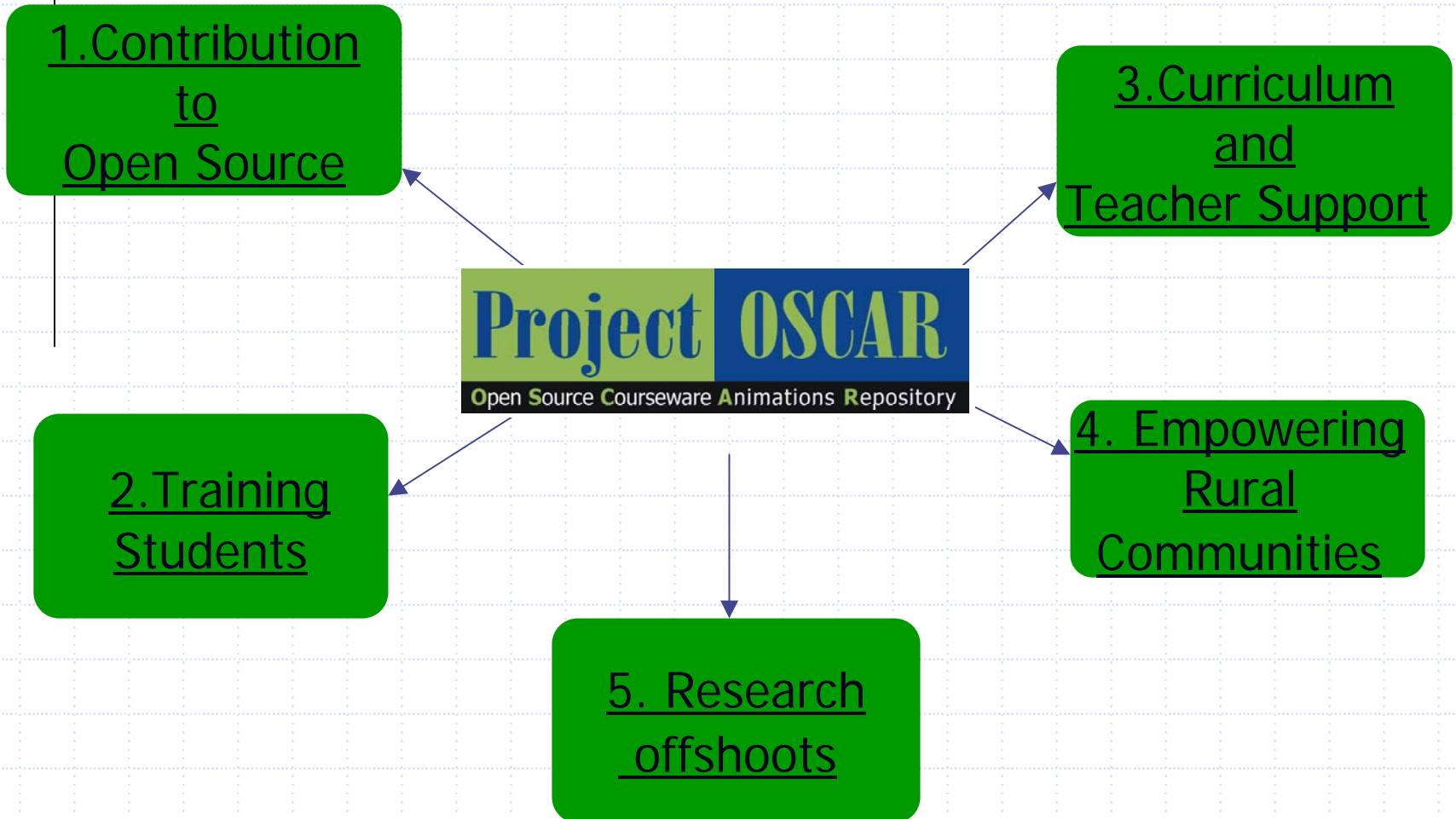


Goals

- **Create a searchable repository of**
 - Open source Web-based interactive animations for teaching various concepts and technologies
- **Provide a platform for**
 - Mentors (Teachers and experts in various domains) to suggest ideas for animation
 - Developers (Students) to create content based on the suggested ideas and guidance
- **Provide a mechanism to leverage**
 - Student projects
 - Rural manpower

The Facets



1. Contribution to Open Source

1.1 Content Creation

1.2 Scalable Collaborative Mechanism

1. 1 Content Creation

Existing Open Source Courseware

Course web pages:

- Made available by instructors in most universities
- Content may be text , web pages, slides etc.

Class videos:

- Made available for streaming and off - line access
- Example: IIT Bombay - www.cdeep.iitb.ac.in/

Problems:

- Most instructors have their own way of teaching so such content has only limited value for reuse
- Most content does not fully exploit the computer's capabilities

OUR FOCUS : ANIMATION WITH USER INTERACTION

1. 1 Content Creation..

Animation Content Development : Base
Technology JAVA Applets

Platform independent and portable

Only need Java enabled web-browser

Interface with various types of media

text, graphics, animations, sound

Controlled execution environment

User interaction possible

This is an important and enables designing lab experiments around the Applets.

Project OSCAR

Open Source Courseware Animations Repository

Home Page

The screenshot shows the Project OSCAR Home Page in Microsoft Internet Explorer. The browser window title is "OSCAR Main Page - Microsoft Internet Explorer". The address bar shows "http://oscar.iitb.ac.in/oscarHome.do". The page features a navigation menu on the left, a search section in the center, and a right sidebar with user options. The main content area contains a description of the repository's goals and a registration statistics bar at the bottom.

Project OSCAR
Open Source Courseware Animations Repository

Home
[About OSCAR](#)
Animations
[Search](#)
[Suggest](#)
[Submit](#)
[Develop](#)
[Available](#)
Discussion Forum
Sites for Reference

Search the Repository
Keyword:
or
Area:
[Suggest Animation](#) [Submit Animation](#)

Registered User
[Login](#)
Join Community
[Developer](#)
[Mentor](#)
[Sponsor](#)

OSCAR Programming Contest

The main goal of Project OSCAR (Open Source Courseware Animations Repository) is to create a repository of web-based, interactive animations for teaching various concepts and technologies.

The concepts range from high school to advanced topics in many areas. Each animation is typically a Java Applet that focusses on one concept and enables the user to learn about the concept in an interactive manner.

All the material developed in this project are Open Source Courseware. Permission is granted for download/use/modification/distribution of this material, for non-commercial purposes; standard "public-domain" rules. Please be kind enough to acknowledge the original authors.

Registrations:110 Developers:96 Mentors:14 Projects:59 Hit Count Since 28-02-2006 **001880**

[Contact Us](#) [Feedback](#)

1. 1 Content Creation..

Study 1 : Are Applets useful ?

Participants

Thirteen Students

Twenty Five Teachers

Aim

Students – To find responses to
conversant and non-conversant concepts

Teachers – Reflection on the usability and
integration issues of the concept

1. 1 Content Creation...

Feedback From Students:

Advantages and Benefits

Concepts more clear

Enables self-study; Revision of topics

Will increase interest in Subject

Exploring concepts and gaining more insight

Unanimous

Teacher's should include these tools to enrich learning and enhance our understanding

1. 1 Content Creation

Feedback from teachers :

Motivates and attracts students

Virtual effect through animations will help in visualizing and understanding the concepts

Encourage qualities of exploration and inquisitiveness

Applets and related resources

Will improve the design and delivery of lessons

Increase student interest in the Subject
Increase aspiration to learn and achieve

Applet Screen

Sliding Window Protocol - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://oscar.itb.ac.id/onsiteDocumentsDirectory/tcp/tcp/index.html>

Demo Configure Pause Resume Reset Help Analysis Step About us Download

Simulation of Sliding Window Protocols

Sender Window **Receiver Window**

List of Protocols

- Stop n Wait (SnW)
 - Without Error
 - With Lost Packet
 - With Lost Ack
- Go Back n (GBN)
 - Without Error
 - With Lost Packet
 - With Lost Ack
- Selective Repeat (SR)
 - Without Error
 - With Lost Packet
 - With Lost Ack

Go!

Packet No.	Timeout
1-5-9	
2-6-10	
3-7-11	
4-8-12	

Legend:

- Frame
- Acknowledgement
- Frame lost
- Ack lost
- Sliding Window

SENDER

RECEIVER

Applet New started Local intranet

start 10.129.1.3 - m... 10.129.203.1 - ... OSCAR Main Pa... Sliding Window ... oscar Microsoft Power... 1:18 PM



1.2 Scalable Collaborative Mechanism

Project OSCAR provides a portal for :

- Users who can be either Developers , Mentors
- Collaborative animation development
- Easy cost effective and scalable solution
- Collaboration with other institutes developing similar Open Source content

The screenshot shows a Microsoft Internet Explorer browser window displaying the Project OSCAR Developer Area. The browser's address bar shows the URL <http://oscar.itb.ac.in/loginForm.do>. The page features a navigation menu on the left with links for Home, Animations (Suggest, Develop, Submit), Communication (Compose, Sent Items, Inbox, Read Message), Discussion Forum, and Logout. The main content area is titled "Welcome OSCAR10076 developer group!!!!" and provides instructions for developing, suggesting, and submitting animations. A right-hand sidebar contains links for My Profile, Change Password, and My Animations (Suggested, Submitted). The footer includes a "Contact Us" section, a "Feedback" link, and copyright information for KReSIT, IIT Bombay, dated 2005-2006. The Windows taskbar at the bottom shows the Start button, several open applications, and the system clock at 1:27 PM.

Project OSCAR
Open Source Courseware Animations Repository

Home

Animations

- ➔ Suggest
- ➔ Develop
- ➔ Submit

Communication

- ➔ Compose
- ➔ Sent Items
- ➔ Inbox
- ➔ Read Message

Discussion Forum

Logout

Welcome **OSCAR10076** developer group!!!!

Developing an animation. Select the animation idea, which you like and want to develop through **Animations** ➔ **Develop** link. Go through the development guidelines before starting the job.

Have some other idea on which you would like to develop some animation. Suggest it through **Animations** ➔ **Suggest** link and wait for its approval from our experts. Once approved/modified you can start developing it. Do remember to go through the development guidelines.

Already have a built animation. Contribute it to open-source community through OSCAR. Use **Animations** ➔ **Submit** link to upload the source code and associated reading material. Please provide as much information as you can to help us categorize well and make it available to others.

[What more ?](#)

My Profile

Change Password

My Animations

- ➔ Suggested
- ➔ Submitted

Contact Us

Powered by DEVELOPMENT GATEWAY

Feedback

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2. Training students

- Short and Long term training for students
- Such projects ideal for undergraduate students
- Vacation/Course projects for B.E./M.C.A final year
- Also suitable for non-Computer Science majors

2. Training students..

Training through:

- Conceptualization
- Design
- Development
- Implementation

3. Curriculum and Teacher support

- Teachers can use the applets to explain the concepts effectively
- Applets will be a value add to the static content in text books
- Applets can be used in class teaching and also for experiments in Labs
- Relevant applets can be sequenced to generate course ware

Teachers' participation in Project OSCAR :

- Suggesting animations and mentoring students
- Conceptualizing the applet
- Designing courseware curriculum
- Giving feedback and testing the effectiveness of the applet

4. Empowering Rural Communities

- Imparting training skills: eg: Java, Authoring Tools
- Building domain knowledge
- Suitable for rural students from the non-traditional education system
- Opening up of opportunities after training
- Pilot on-going in Timbaktu school

5. Research Areas

The following are interesting research offshoots:

- Building Animation authoring tools
- Developing Courseware authoring tools
- Developing effective search engines
- Translating content to local languages
- Developing an independent learning system for students

Current Focus Areas

Basic : 8th – 10th Science and Maths Curriculum

Advanced: Networks, Robotics, Biotechnology

Current statistics

Number of Animations available : 26

The Team

Prof-In-Charge – Prof.Sridhar Iyer

Web Development Team – Ms. Vijaya, Vidya, Ravi

Content team

Communications team

Developers – Final year students

Mentors – Prof.Amarnath, Prof.Bhatt, Prof.Ranade

Administration team

Thank You