

Nirbhay Agarwal

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Skills

Conceptual

Strong grasp of OOP concepts and data structures.

Interest in software design, architecture and working with algorithms.

Front-end

Decent command over programming languages like objective-C and ActionScript 3.0. Also worked with C and C++.

Database

Worked with SQLite for projects in iOS.

Fundamentals

Used Git and Subversion.

Experience

Senior software developer at Clarice Technologies

- Responsible for designing, development and maintenance phase of products.
- Managed and guided teams of 2-3 people.
- Conducted code reviews and quality checks on the project.
- Wrote some generic and reusable classes to provide a easy-to-use wrappers around some complex tasks like sqlite3, file management, core graphics etc.

2011-2012

Pune

Software developer at Clarice Technologies

- Responsible for development and maintenance phase of products.
- Responsible for exploring and researching new libraries/domains and developing POCs for potential products.

2010-2011

Pune

Game developer at TigerTail Studios

- Responsible for developing games.
- Added responsibilities included brainstorming new ideas, design, prototyping and testing our products.
- Working in a startup also gave me opportunity to understand the software process as a whole, interaction with design and art teams, etc.
- Got exposure into physics engines, game engines and A.I.

2009-2010

Hyderabad

Interests

I have an interest in the fields of artificial intelligence, computer vision, virtual reality and games. I enjoy travelling, mountaineering and watching star trek.

Education

Bachelor of Engineering in Information Technology – 61.2%
SAOE, University of Pune, 2009

Higher Secondary, CBSE – 70.6%
Kendriya Vidyalaya (Panvel), 2005

Secondary (SSLC), CBSE – 82.3%
Kendriya Vidyalaya (Panvel), 2003

Projects (Apps)

Pelican

- An app that lets users create seamless tiling pattern that can be used to provide textures to variety of items like wallpapers, walls, textile etc.
- User can capture an image and we run a set of algorithms to make the image a seamless tile. These algorithms are:
 - 1) *Crossfading (Radial and Linear)*: To blend the edges into each other so there is no visible edge.
 - 2) *Color Matching*: We match the colors on every edge of the image to its opposite edge. This reduces any color anomalies that may be present.
 - 3) *Brightness, color contrast and lightning contrast*.
 - 4) *Lightning correction*: This algorithm helps to reduce any visible variation of lightning that may be present.
- Using core graphics we let the user draw a variety of shapes and retain their attributes so it can be treated like a vector graphic. Later these shapes can be converted to SVG format.

iPhone
Clarice Technologies
Client: Corel

Obamagram

- An app that lets US. Citizens take a photograph, make a postcard from it and mail it to White House.
- This was developed during the election campaign period in the USA. It was targeted to draw President Obama's attention to any issues the user might seem fit.
- Once the photo was ready, it was sent to corel server (for a fee) and then printed out on a postcard and shipped to the Presidents address.
- User could also share his postcard on social networks like Twitter and Facebook.

iPhone
Clarice Technologies
Client: Corel

HDR app

- An app to capture photographs from the iPhone camera in High Dynamic Range (HDR) format.
- Essentially this requires us to capture an image at different exposure levels and then merge them.
- There is no way to directly control the exposure level of the iPhone camera so I had to come up with alternate solutions like

iPhone
Clarice Technologies
Client: undisclosed

calculating the brightness at different points on the frames and setting focus point at those, capturing a series of photographs at different focus points, etc.

Photo Sorter

- An app used to logically group images in an album into folders.
- Primarily used to sort the photos into best, good and bad.
- Instead of physically creating folders and moving images into them, this app inserts tag values into the EXIF meta data of the JPEG images. This way the images still exist in one physical directory but logically sorted. The tag values retain their property when transferred between camera, phone or computer.

iPhone
Clarice Technologies
Client: Corel

Projects (Games)

Hell Yeah

- Hell Yeah is a gesture based structure defense game.
- Used a game engine called Cocos2d for development and OpenFeint for Facebook/Twitter integration.
- Developed a gesture recognition engine and implemented dynamic resource management for performance.

iPhone
TigerTail Studios

Dadi (Nine Men Morris)

- A turn based board game targeted for Facebook and Orkut.
- The AI for the single player mode was implemented using Min-max algorithm with optimization.
- Multi player game play used a PHP back end and mySQL database.

Flash
TigerTail Studios

Yahero Games

- Created a series of two flash games for an online virtual world called Yahero.
- The games required physics, data management and online score submission.

Flash
TigerTail Studios

Cooking Games

- Created two cooking games for Games2Girls.
- Game required gesture recognizing engine and score management

Flash
TigerTail Studios

Projects (College)

Patient Administration System (PAS)

- Centralization and automation of various hospital procedures using Phillips Mifare smart-card which is used for authentication and storing of personal and financial details.
- Technologies- JSP pages deployed on a server(GlassFish), backend in MS Access

JSP
eInfochips