Paul Cameron
01527606
KIN851 - Design Project

dustlands

| in search of the spirit of Australia |

table of contents

1: introduction

· Outline

Dustlands is an adventure game set in the Australian desert. The player's experiences include elements of action and role-playing, with a focus on building relations between various culturally diverse communities who have fled their cities as a result of numerous, debilitating terrorist attacks. The game exposes the harsh reality of life outside the comfort zone many take for granted today, as the player must also organise the gathering and distribution of life-sustaining resources for these communities. While the player may often feel despair from the gravity of the situation, success in the dustlands is achieved by completing mini-games (such as driving, hunting, and constructing); the resources gained from these being pooled for the collective use of allied communities. Dustlands has a dry look and humour throughout, however the player's behaviour directly influences the game environment both visually and mechanically.

· Context

As Australia (and, indeed, other nations) grows in population and its cultural diversity expands, so too does the division between its people in their racial, ethical, and religious beliefs. The level of trust in having those from other backgrounds carry out common, every-day duties with integrity diminishes, resulting in people being more likely to associate and trade only with members of their own background. This, in turn, creates ever-increasing barriers between the various groups. Consider the segmentation of residents of different backgrounds in your city for a clear example of this problem.

People often require challenges greater than they can overcome alone before they look to others for assistance in solving them. One such challenge which Australia is yet to face is that of an overpowering attack on its lands, and from this, dustlands draws its theme.

The storyline and underlying game systems of dustlands are an attempt to awaken its players past the premise of “playing a game”; one of dustland's goals is to have people think of multicultural Australia as a whole, as opposed to a compilation of several, segmented groups.

With the above in mind, dustlands is developed through the collaboration of various groups and individuals.

· The dustlands team

Dustlands is an original project by Paul Cameron, a Bachelor of Information Technology (Data Communications) and Masters student (Communication Design) at the Queensland University of Technology. As the lead game designer for this work, his roles include: Initial treatment, story, and design documentation as well as level design, soundtrack creation, and coding of the dustlands prototype.

Throughout Q1 and 2 of 2006, third-party development groups will be invited to create various game components from design specifications. See “method” in section 2 of this document for further information on this process.

Playtesters will be involved and required throughout the project, and will include a selection of interested parties from the aforementioned target market demographic, be they game players or not. Dustlands' testing processes are described in the following section of this document.

ii: solution

· Tools and Technologies

- · Macromedia Flash - dustlands runs from within a web browser, using vector graphics. A large component of dustlands is written in ActionScript.
- · PHP: Hypertext Preprocessor - integration of the back-end database with the front-end application.
- · MySQL - database storage of both static and dynamic content to be accessed and displayed while playing the game.
- · Logic audio - soundtrack and sound effects creation.
- · Reference materials used in the development of dustlands are noted in the bibliography.

Calling on previous experience with each of the above resources, I intend to produce weekly "snapshots" of the dustlands project in addition to major milestone presentations (noted in “method” below) in November and December 2005, and Q1 and Q2 of 2006. A development log including links to project documentation will be made available in November, 2005.

Several core components will be constructed initially to allow for ease of integration of peripheral components. These core components include, but are not limited to:

- · Database access mechanisms.
- · Text and graphical display functions.
- · Audio playback functions.
- · Placeholder artwork (GUI windows, character, terrain, and object art, sound and music files).

· Method

The primary goal for each major component of the dustlands prototype is to:

1. Create technical specifications document/s.
   The game designer produces documentation which details the component from a general overview through to a full technical break-down of the its requirements for operation as both a separate system and a part of the larger dustlands application.
2. Build the component, adhering to the related specifications documentation.
   The component's design specifications will be provided to both in-house and third-party developers for concurrent construction. This procedure is being undertaken so that differences in interpretation of the component specifications can be seen in the ensuing component prototypes. It should be noted here that the component specifications are not rigid – if a situation arises where the component can not possibly be constructed as per its specification or the specification yields vastly different components from each development group, the document will be rewritten as necessary. Reasons for the failure will be noted in development logs in the interests of avoiding such failure again.
3. Integrate the component's specifications documentation into the all-encompassing dustlands design document.
   After a successful component build, the resulting design specification will be updated (if necessary) in the greater dustlands design documentation.
4. Integrate the built component prototype into the overarching dustlands application.

Obviously, this process relies upon various required components to already be in existence (see tools and technologies section above for examples of such components which will be developed prior to this iterative procedure being employed). During this phase, debugging and balancing measures will be undertaken to ensure a successful fit of the component into the dustlands application.

By using an iterative design model throughout the project, shortcomings identified in any of the above steps will be able to be rectified in further iterations of the process. Time will be saved as components will be identified as failing or likely to fail early enough in the above process to allow for recursion of previous steps instead of attempting to continue, rewriting the component on the fly only to find that it will not work within the larger application at a later stage.

Design Concerns

The following passages cover the extent of the content the dustlands prototype will include at its release as well as consideration of various factors which may impede (and have already impeded) its timely development.

Project Scope

Minimum Functionality

- Moveable character (player controlled): top-down/plan view.
- Driveable vehicles (player controlled): vertical and horizontal scrolling views.
- Resource acquisition: The player will be able to take part in mini-games such as driving across various terrains, constructing and repairing mechanical and electronic devices, as well as hunting, gathering and trading commodities, etc.
- World map: The player's location, factional ownership/borders, and landmarks such as resource locations, quest objectives and towns will be displayed. Results dependendant on extent of exploration and/or news gained through trade with other communities.
- Mechanic skill set: improvement of the character's mechanical ability allows for the construction of a broader range of mechanical devices.
- NPC interaction: dialogue, trade, combat.

Desired Functionality

Includes all minimum functionality components plus:

- Support for all four skill sets (hunter, doctor, mechanic, electrician).
- Journal system: The character's various exploits will be recorded and tabulated for review both in and outside of the game itself. This system can then be expanded to form a scorecard of sorts for use in an on-line ranking system.
- Discussion forum: Players can communicate with each other outside of the game to relay their various achievements and findings.
- Multi-user capacity: This component is not likely to be included in the final prototype release due to its complexity, however such a system would track the actions of each player and from this information, create global economic and relations game systems (as opposed to individual systems per player). This component would also include an in-game messaging system, allowing allied players to notify each other of their recent actions.

- Resource management: Those seeking to micro-manage resource distribution amongst the various communities they own or trade with can do so, planning caravan loads and routes throughout the dustlands. This system would act as a sub-component of the multi-user system, should it be included.

A successful product

Milestones

The process of seeing dustlands from concept to completion includes the following milestones:

1. Requirements Gathering
    1. General requirements gathering - minimum functionality, expected functionality Completed 31/5/2005.
    2. Technological requirements gathering - research and construction of tools and components that will be used to create and run the dustlands prototype. Completed: 31/5/2005.
    3. Resource requirements gathering - a compilation of the software and literature which is needed to see the project to completion. Current at 31/5/2005 with some expected additions.
2. Feasibility
    1. General feasibility study - gameplay and story elements refined. Market interest in and acceptance of Dustlands design/concept. Explain dustland's fit within an existing genre, and how/where it adds to and improves the genre. Due: 14/11/2005
    2. Technological feasibility study - Research of target market's access to hardware and software required to play dustlands. Completed: 15/8/2005
    3. Resource availability study - consolidation of results of 1.2 and finalisation of project members required to complete the project. Due: 29/11/2005
3. Architecture
    1. Draft architecture specification - Report on the operations and interaction of tools and components created/sourced as part of 1.2. Discuss the possibility of / need for additional elements to be built after project initialisation. Due: 14/11/2005
    2. Project initialisation. Commences: Monday 5/12/2005

Additional Milestones after project initialisation:

- Early design specification: Early November 2005
- First component prototype (developed in-house from design specification): Mid November 2005
- Full game design specification (working version): 16/12/2005
- Release of design specification to 3rd party developers: February 2006
- Development of design by specification (in-house and 3rd party development groups): February - May 2006
- Final release: Mid May 2006
- Research findings: Early June 2006
- Design report. Due: Mid June 2006

Additional Objectives

Originality - While stories and even games relating to civil unrest and the trials and tribulations those affected are not new, it is difficult, if not impossible, to capture the audience so well as to have them fully appreciate the extent of the conflict, as most are the retelling of events in times past. Those that are not are generally associated with threats of agressive alien lifeforms or the spread of infectious diseases. Dustlands takes a different approach, leaving it up to the people to create for themselves the world they wish to live in. Adding to this, the Australian theme will strike a chord with a people who are experiencing a time of great possibility and uncertainty. Thousands of locally-born children of migrant parents are now reaching adulthood, while they are made ever aware of the lifestyles they would have had, had they been brought-up in another part of the world. The multiculturalism of Australia is making it harder every day to simply be an Australian. Dustlands poses the question to us all - how will we react as a community when it is in fact our shores that experience the hardships currently affecting other nations?

Coherence - Dustlands needs to follow its theme closely in order to be a believable product. It is imperative that in-depth research of the Australian desert is undertaken so as to provide an accurate representation of the difficulties one would face when placed in this environment. At the same time, however, it must be remembered that many of the people inhabiting this space will have once been your everyday cityfolk, and although their lives will change remarkably as a result of their situation, they will still yearn for the pleasures they experienced previously. Incorporating the possibility of enjoying these experiences once more will add both sense and humour to the project.

Interactivity - Although being a single-player game, there is no reason why interactive experiences should be limited. When engaged in the game, the player is constantly prompted for a response, be it whether to move up or down, whether to accept another community's trade offer or attempt to take their resources forcibly for example. It is also envisaged that outside of the game an online community will form, with its members announcing to other players the location of game commodoties or telling stories about how they have chosen to play the game. These, and other yet unconsidered possibilities will serve to offer further interactive experiences for dustlands and its players.

Interesting - While many games are interesting to a point (learn how to best use the interface for results, identify and employ winning tactics), dustlands adds to this framework by using a persistent game world which will induce regular changes in the way people behave when playing the game. Relationships formed or damaged through the player's actions will create new challenges and scenarios in gameplay from which the player must adapt his strategies to suit. The evolving story of the development of the dustlands communities, and what they hear of the proceedings in their old home towns keeps the game interesting, and the player's desire to continue experiencing these developments high. In contrast to many other adventure-style games which usually degrade to the attrition of townsfolk when the player doesn't get his way, the townsfolk in dustlands most commonly exist as a direct result of the player's actions, not as pre-scripted, communicative machines.

Fun - No one is going to do something for very long if they don't find it satisfying. Gameplay and balancing issues will be tested and investigated before release. For example, should one bad

decision on the player's behalf see their community left without the possibility of acquiring any more water in time to keep its people alive, the player may see no point in continuing to play the game. Although a situation such as this shouldn't be impossible to end at, it wouldn't leave the player with fond memories of the game, and the time they had put into playing it would seem entirely wasted. Fall-back scenarios will be prepared for injection into the storyline in these sorts of situations.

· Shortcomings

Deciding on the medium for the dustlands project was significantly difficult. The original dustlands concept (see http://www.dustlands.com/original for early concept writings) was to be a modification/add-on to the PC game, Battlefield2 (BF2) which, at that point was yet to be released. The development process of the game in this format was halted due to various, insurmoutable factors:

1. Battlefield2 mod development tools were not scheduled for some months (they are now finally available in a beta format). While this was not a major concern, a reply to my initial queries sent to Lawrence Brown (the BF2 mod coordinator at Electronic Arts) advised that the Battlefield2 engine would not support various mission-critical features of the dustlands project such as:
    - The ability to save the gamestate at the conclusion of a round of play - Dustlands was intended to operate as a persistent, online world in which various players could compete against one another, shifting the balance of power and control of the dustlands world through their in-game efforts. This inability to effectively or efficiently track human performance was not expected due to reports of a complex statistical tracking mechanism being available within the BF2 game engine.
    - Dynamic generation of levels/maps based upon the outcomes of previous battles. I was advised that only static map types were to be supported. Further, the pre and post-game event scripting capacity of the BF2 mod tools would be insufficient to facilitate even semi-dynamic map generation (i.e. a building that had been destroyed in a previous battle would appear as undamaged next time the level was played - again, preventing a persistent world from being possible under this engine).
2. In addition to the issues noted above, the dustlands designer was accepted into another BF2 mod development group, Mech Tactical Simulation (MTS), as a level designer. After consideration of time constraints and the unfortunate news about the failings of the BF2 game engine (in relation to dustland's needs), the dustlands project was cancelled indefinitely.

   Sadly, however, after learning more about the expectations and limitations of the MTS project, it was discovered that involvement in MTS alone would be an insufficient project due to highly restrictive design rules for maps in the game. These rules were brought about due to the BattleTech universe already being "built". The locations for which maps were to be created had already been described in detail in official BattleTech documentation, and adherence to these works was paramount.

While continuing to work energetically with the MTS team, dustlands has been rewritten and restructured (to the point as it appears in this document) with consideration being given to the capacity to complete the project by mid 2006.

· Risks

The collaborative development aspect of this project brings with it the strong possibility of various timing and communicative issues coming to the fore. While every effort will be made in the coming months to ensure the commitment of multiple third-party development groups, this cannot be taken as a given. Should a situation arise where no external development parties are available to take part in the dustlands project, development will proceed without their assistance; the internal project team being bolstered by members specialising in required fields as necessary.

Early research methods (which will be discussed in future documents) are proving somewhat unsuccessful, with professional Australian game development houses being largely uncooperative in responding to emails, phone calls, and on-line surveys. Should this continue, research into game design methodologies will be limited to existing academic publications. While clearly a disappointment, a predicament such as this will not hinder the development of dustlands to a point where it cannot be completed.

My weakness in visual artistry and computer graphics is indeed going to create a level of unprofessionalism within the project. This matter will be addressed through the incorporation of the works of third-party development groups or individuals as described above.

Due to the moderate scale of the project and the timeframe it is to be completed within, it is essential for documentation and milestones to be created and referred to with untold regularity for the development of dustlands to remain on track in both time and technical domains.

bibliography

Andrew Rollings, Dave Morris, "*Game architecture and design*" (The Coriolis Group, 2000).

David Miles Huber, Robert E. Runstein, "*Modern Recording Techniques, Fifth Edition*" (Focal Press, 2001).

Sham Bhangal et. al., "*Flash Games Studio*" (friends of ED, 2001).

Craig A. Lindley, "*Game Taxonomies: A High Level Framework for Game Analysis and Design"* (http://www.gamasutra.com/features/20031003/lindley_01.shtml).

Katie Salen, Eric Zimmerman, *"Rules of Play: Game Design Fundamentals"* (The MIT Press, 2003).

Colin Moock, "*ActionScript for Flash MX: The Definitive Guide, Second Edition*" (O'Reilly and Associates, Inc., 2003).

Luke Welling, Laura Thomson, "*PHP and MySQL Web Development, Second Edition*" (Sams Publishing, 2003).

Richard Rouse III, "*Game design theory and practice (second edition)*" (Wordware Publishing Inc., 2005).