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for Increased Youth Inclusion and Academic Achievement

D6.2

Prototype Prosocial Games

Prototype Prosocial Games



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List of Abbreviations

Abbreviation	Description
EC	European Commission
PLO	Prosocial learning objective
PsL	ProsocialLearn – this project



Executive summary

This document is not a deliverable in itself, but aims to briefly describe the status and development process for the ProsocialLearn prosocial games prototypes, the deliverables of T6.2.

The games will support prosocial learning objectives associated with at least two prosocial skills defined in the methodology (T2.2). The games are to build directly on the ProsocialLearn platform exploiting as many of the features as possible within gameplay. Different game types, missions and styles are to be applied in different settings in order to ensure the capability of the product to generalize.

Originally, two prototypes were planned, one to be developed by PlayGen (PG) and one by Redikod (RK). At the time of writing, three prototypes are actually in development. These are TowerTogether, and PushyPaddles by PlayGen, and The Secret Word Game by Redikod. They showcase different scenarios, numbers of players and prosocial learning objectives, and vary in their implementation of the ProsocialLearn platform, from sensors to adaptation, both as related to player history (“off-line adaptation”), and player action (“on-line adaptation”)

A full technical validation of the games will be completed to ensure that the quality of the system will be sufficient for short experimental studies to be conducted in T7.3.



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1 Introduction

This section provides detailed information about the purpose, scope and structure of the document as well as the intended audience of the document.

1.1 Purpose of the Document

This document is not a deliverable in itself, but aims to very briefly describe the status and development process for the ProsocialLearn prosocial games prototypes, the actual deliverables of T6.2. More detailed information on the respective games are appended (Appendices I, II and III) to this report, but the reader should primarily refer to the actual deliverables.

It should be noted that this document is intended to evolve to give a cumulative overview of the task's undertaken activities.

1.2 Scope and Audience of the Document

Again, this document is just meant as a brief status report, not a deliverable in itself, and is a momentary view of the task T6.2. The audience is the ProsocialLearn consortium and the EC.

1.3 Structure of the Document

This document contains the key sections detailed below:

- **Section 1: Introduction** – an introductory section, i.e. this present section, which describes the main purpose of the document.
- **Section 2: Prosocial game prototypes** – this section describes in overview the prototypes developed or in development.
- **Section 3: Summary Timetable** - this section presents a review of the expected deliverables and activities planned.
- **Section 4: Conclusion** – this section presents the conclusion of the document.
- **Sections 5-7: Appendices I to III** – these sections present the individual games in more detail.



2 Prosocial games prototypes

In this section, a brief overview of the prosocial games prototypes is presented.

2.1 Objectives

This task is, according to the DoW, to utilize existing leisure game technologies in order to develop two prosocial games using rich 3D technologies (e.g. Photon33, Unity) and open web technologies (e.g. WebGL) as the target gaming platforms. These engines are chosen as representative examples of game development APIs used in the market, obeying to different development principles and posing different restrictions.

The games will support prosocial learning objectives associated with at least two prosocial skills defined in the methodology (T2.2). The games will build directly on the ProsocialLearn platform exploiting as many of the features as possible within gameplay. Different game types, missions and styles will be applied in different settings in order to ensure the capability of the product to generalize.

2.2 The prototypes

In the DoW, two prototypes were planned, one to be developed by PlayGen (PG) and one by Redikod (RK). At the time of writing, three prototypes are actually in development. These are introduced below.

2.2.1 TowerTogether (PG)

TowerTogether is a cooperative platformer that tasks players with building towers out of tetromino blocks that are subject to physics. The game requires at least two players and can currently have up to eight players.

Players take control of blocks from a shared supply and are able to move and rotate them in 90 degree increments. The blocks may then be locked into place when happy with their positioning, at which point physics takes over, with these blocks now able to rotate freely and fall if not properly supported.

If players manage to reach a checkpoint, they are provided with an additional supply of blocks and a new, higher checkpoint to reach. In order to achieve their goal of reaching this line, players need to communicate on which blocks to use and where they should be locked into place. The game ends once players fail to reach a checkpoint before running out of blocks, at which point the players are told the final height of the tower they have created.

The TowerTogether game is based on *collaborative action*, *mutual goals* and *shared resources*. Players must work together to successfully build their tower whilst sharing limited resources.

2.2.2 PushyPaddles (PG)

PushyPaddles challenges players to work together to reach a common goal. The game requires three players, each with their own role. The “Floater” must ride the platform from the bridge to the chest at the end of the water without hitting any obstacles in their path. This is achieved with the help of the other two players, the “Paddlers”, who must use their paddles to steer the floater around the obstacles and to the chest.



Players will need to communicate in order to get to the goal at the end of the level, the two paddlers should be standing on opposite banks in order to steer the floater efficiently past the obstacles and onto the island with the chest

Once a player reaches the chest, that player will be given a series of rewards that he must distribute amongst all players. The game will then reset, increase in difficulty and change the roles of the players in a round robin style.

Players will work together to try to complete as many levels as possible, each round will have a time limit in which players must try to reach the goal. If the goal is not reached in that time, the game is lost and players must start from the first round again.

PushyPaddles game is based on *mutual goals*, *player decided rewards* and *role reversal*. Two of the players must coordinate their actions to safely get the third player to their destination.

2.2.3 The Secret Word Game (RK)

The Secret Word Game is a collaboration scenario where the players are supposed to build a word out of letters at the schoolyard. There's signs on the ground showing where the final word is supposed to be built, so everyone can see how many letters the word is. Players can only see and position the letter they have assigned to them.

Players have to talk to each other and figure out the word, and then each player moves to the area corresponding to the correct place. When a letter is correctly placed it becomes visible to everyone.

When all letters are correctly placed the team wins and gets a celebration and/or reward.

The Secret Word Game game is based on *collaborative action and mutual goals*. Players must work together to successfully figure out the secret word. *Shared resources* may be introduced through limiting the number of moves allowed.

The Secret Word Game is prepared for the implementation of personalised avatars and built on the openly available Unity-based uMMORPG framework. This, in principle, enables a platform where it is easy to implement new scenarios for games, where, hypothetically, a tool-box could be provided for teachers and students to set up game scenarios with a brief narrative and possibly even building dialogue trees with NPCs (non-player character). However, the implementation challenges regarding the PsL technology and platform and time consumed in getting the game to the point it is today, most likely push any such efforts beyond the scope of the project, to a possible spin-off phase.

2.2.4 Summary and overview

The ProsocialLearn game prototypes all contribute towards fulfilling the goals for the prototype games as outlined in the DoW, and taken as a whole covers, or will cover when all components are implemented, what was intended from the outset. An overview of this is offered below.

Table 1 - Overview of prototype games' features and development status

	TowerTogether	PushyPaddles	The Secret Word Game
Multiplayer	Yes	Yes	Yes
3D	No	Yes	Yes
Unity-based	Yes	Yes	Yes



HTML5/WebGL	Yes	Yes	Yes
Sensor implementation: Voice	Passive tracking	Passive tracking	Done (Not yet tested)
Sensor implementation: Face tracking	Passive tracking	Passive tracking	Not started
Sensor implementation: Kinect	No	No	No
Prosocial Adaptation Manager offline adaptation (player-history) implementation	In progress	In progress	In progress
Prosocial Adaptation Manager online adaptation (real-time) implementation	In progress	In progress	In progress
PsL platform upload and distribution	In progress	In progress	In progress
Lesson plan: Preparation	Yes	Yes	In progress
Lesson plan: Debriefing and discussions	Yes	Yes	Not started
Lesson plan: Assessment	In progress	In progress	Not started
Lesson plan: Generalisation	In progress	In progress	Not started



3 Summary Timetable

The development of the ProsocialLearn game prototypes has gone through several phases, both standard for game development in general, and more specific for new technology, such as that of the PsL platform. Below is an overview, mainly derived from the DoW.

PHASE 1: Design (M13-M18)

- In parallel with the development of, and eventually also utilizing the PsL game design methodology as this came available, some prototype games were developed and set aside, such as CandyQuest (PG) and Magic Garden (RK).
- Finally PsL-based games, having varying degrees of integration with the PsL platform, were arrived at.

PHASE 2: Iterative development (M19-M24)

- Through user-testing, the addressing of PLOs is ensured, with appropriate outcome and reinforcement through game feed-back.

PHASE 3: Roll-out for validation (M25-M31):

- Technical and PLO validation of prototype games.

ACTUAL: Some minor, but notable, milestones and dates:

- Due date for release candidate platform was M18
- Original due date for prototype games was M24
- Longitudinal studies of prototype games originally intended to commence M25
- Amendment included postponement of D6.2 to M28, meaning longitudinal studies of prototype games to commence M29
- PlayGen submitted on May 23 to RK and ATOS (M29)
- Redikod submitted on March 15 (M27) to EA for testing, with a second, improved submission on April 26 (M28)
- PAM (engagement module) became available in the PsL platform June 9 (M30).



4 Conclusions

For the project to succeed, it is very important that all consortium partners uphold their part of the responsibility for the games' implementation. The game developers do not make the platform, are not able to supply the documentation they need themselves, and cannot serve as the sole testers of their deliverables.

Some PsL platform integration has been postponed, and some may actually never be implemented for these prototypes. This is to ensure that games will be available for testing and validation of key precepts of the PsL projects, even though some platform features will not be utilised at this time.

The ProsocialLearn game prototypes all contribute towards fulfilling the goals for the prototype games, and taken as a whole should be seen as covering most, or even all, of what was specified from the outset. This has been achieved even with the in several areas pioneering work on sensors, analysis, adaptation and feed-back, provisioning platform services and games design and themes, all very far from risk-free endeavours under time constraints.

All in all, the ProsocialLearn prototypes are thus, if with some less-than-marginal delays, delivered or on the verge of being delivered as originally intended.



Appendix I: PlayGen prototype game “TowerTogether”

Outline

TowerTogether is a cooperative platformer that tasks players with building towers out of tetromino blocks that are subject to physics. The game requires at least two players and can currently have up to eight players.

Players take control of blocks from a shared supply and are able to move and rotate them in 90 degree increments. The blocks may then be locked into place when happy with their positioning, at which point physics takes over, with these blocks now able to rotate freely and fall if not properly supported.

If players manage to reach a checkpoint, they are provided with an additional supply of blocks and a new, higher checkpoint to reach. In order to achieve their goal of reaching this line, players need to communicate on which blocks to use and where they should be locked into place. The game ends once players fail to reach a checkpoint before running out of blocks, at which point the players are told the final height of the tower they have created.

Prosocial Overview

TowerTogether game is based on *collaborative action*, *mutual goals* and *shared resources*. Players must work together to successfully build their tower whilst sharing limited resources.

Players must cooperate, exercising their abilities to solve the problem as a group by paying attention to what others are doing, by asking for help and helping others, by taking turns and showing that they can be a good sport.

Players need to communicate with each other by being an active listener, respecting others and exercising self control when dealing with a stressful situation.

Prosocial Skills

TowerTogether incorporates a range of prosocial skills during game play. It would be up to the educator to later focus on each of these and support the skills generalisation. Further suggestions are made in the Teacher’s Guide section.

Skills for Cooperation

The following are the skills for cooperation incorporated into TowerTogether.

Solving a problem as a group: Players must work together as a group to build the Tower.

Paying attention to others: Players must observe and communicate with other players to make best use of resources and to coordinate their actions.

Following directions: Players must follow the games’ directions as well as listen and plan on steps and actions of other players.

Working as a team: Players must work as a team, they win or lose together and need everyone’s cooperation to succeed.

Being patient: Players need to exercise patience with each other, for example when another player is setting up a piece. Rushing and being impatient may often result in failing to reach the goals.



Staying on task: Players must focus on the task and avoid getting distracted in order to succeed.

Being a good sport: Players must learn to accept defeat positively and motivate each other in successive rounds of the game.

Skills for Friendship

The following are the skills for friendship incorporated into TowerTogether.

Sharing with others: Players must share their resources in order to succeed.

Communicating with others: TowerTogether is a game of communication, if there is no communication, it's unlikely that players would succeed.

Being an active listener: Players must listen to each other, particularly if individuals are trying to execute a particular plan to succeed.

Respecting others: Players need to respect each others moves and intentions and work together as a team.

Skills for Feelings

The following are the skills for cooperation incorporated into TowerTogether.

Dealing with stress: The game is fast paced and can be stressful, especially if players don't communicate with each other or fail to demonstrate prosocial skills.

Self-control: Players need to exercise self-control, particularly when relying on other players.

Identifying feelings and emotions: Players need to identify stressed out feelings in others and ensure they support any struggling players.

Screenshots

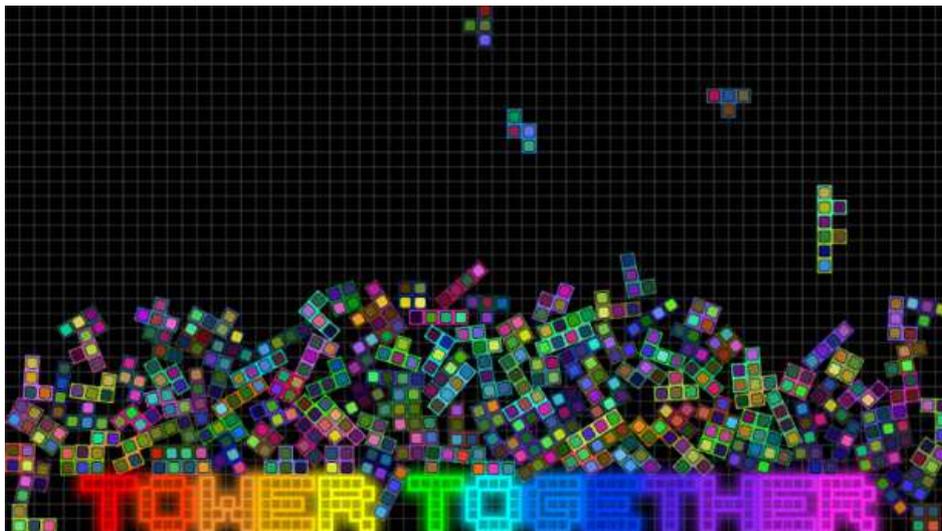


Figure 1 - TowerTogether welcome screen with logo. A how to play screen overlays the welcome screen.

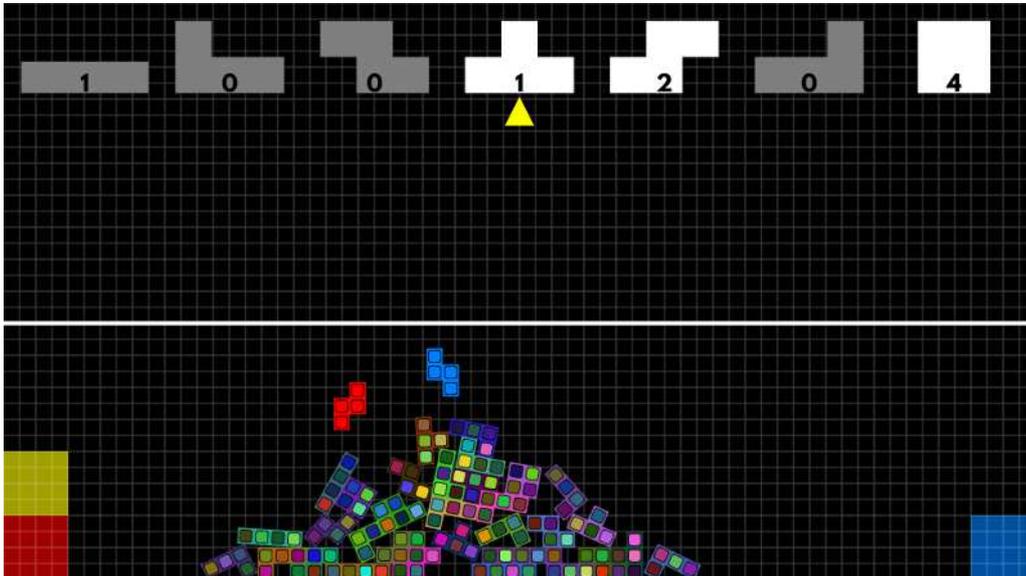


Figure 2 - Game being played by 3 players here coloured red, yellow and blue.

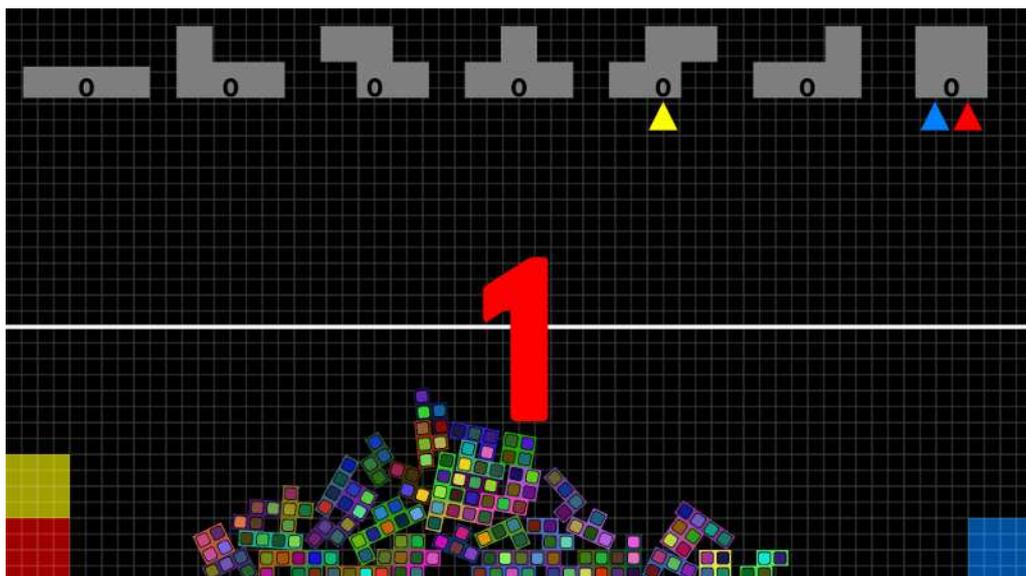


Figure 3 - The team have exhausted their supply of blocks. A countdown decides if they've reached their goal.



Figure 4 - A game over screen displays the final tower height.

Teaching Material

Preparation

Explain to students that they'll be working together to build a tower using shared blocks in a limited time. Between 2 to 8 of them can work together. They have a shared supply of blocks, which each player can move or rotate and then lock into place when happy with positioning. The aim is to build the tower until it reaches the line in the middle of the screen before the time runs out. Additional supply of blocks and higher checkpoints are given after each round is completed. As part of preparation, highlight some of the key skills needed to succeed in the game and ensure players are aware of their responsibilities to the group.

Debriefing and Discussions

The following are suggested questions for each team about their experiences.

Cooperation Skills

The game incorporates the following cooperation skills; Solving a problem as a group, Paying attention to others, Following directions, Working as a team, Being patient, Staying on task, Being a good sport. The following are suggested questions for discussion and debriefing.

- How did you work together to solve the problem as a team?
- Did you have to paying attention to each others actions?
- Did you manage to follow directions from each other when you needed to?
- Did you work as a team? How well do you think you did? Why?
- Who was the most patient? Did you have to be patient in the game? Why?
- Did everyone managed to stay focused? What was the outcome?
- Did it all go wrong sometimes? Who was being a good sport? Why is that important?



Friendship Skills

The game incorporates the following friendship skills; Sharing with others, Communicating with others, Being an active listener, Respecting others. The following are suggested questions for discussion and debriefing.

- How well did you manage to share with each other? Did anyone hog the blocks? What happened as a result?
- How well did you communicate with each other? Why was it important?
- Did you listen to each other? Why was that important?

Feeling Skills

The game incorporates the following feeling skills; Dealing with stress, Self-control, Identifying feelings and emotions. The following are suggested questions for discussion and debriefing.

- Did anyone get stressed out when playing? How did you deal with it?
- Did you manage to exercise self-control? What happened if you didn't?
- Did you notice feelings and emotions of others? how did you deal with it?

Assessment

How the kids are measured in what they've done is currently being developed in conjunction with the pedagogical partners.

Generalisation

Methods to generalise are currently being developed in conjunction with the pedagogical partners.



Appendix II: PlayGen prototype game “PushyPaddles”

Outline

PushyPaddles challenges players to work together to reach a common goal. The game requires 3 players, each with their own role. The “Floater” must ride the platform from the bridge to the chest at the end of the water without hitting any obstacles in their path. This is achieved with the help of the other 2 players, the “Paddlers”, who must use their paddles to steer the floater around the obstacles and to the chest.

Players will need to communicate in order to get to the goal at the end of the level, the 2 paddlers should be standing on opposite banks in order to steer the floater efficiently past the obstacles and onto the island with the chest

Once a player reaches the chest, that player will be given a series of rewards that he must distribute amongst all players. The game will then reset, increase in difficulty and change the roles of the players in a round robin style.

Players will work together to try to complete as many levels as possible, each round will have a time limit in which players must try to reach the goal. If the goal is not reached in that time, the game is lost and players must start from the first round again.

Prosocial Overview

PushyPaddles game is based on *mutual goals*, *player decided rewards* and *role reversal*. Two of the players must coordinate their actions to safely get the 3rd player to their destination.

Players must cooperate, paying attention to what others are doing, asking for help and helping others to succeed. The problem can only be solved together and by changing roles everyone get to take turns.

Players will need to communicate with each other by being an active listener, and allowing each to take control and direct, exercising self control when dealing with a stressful situation, and demonstrating fairness when dealing out rewards.

Prosocial Skills

PushyPaddles incorporates a range of prosocial skills during game play. It would be up to the educator to later focus on each of these and support the skills generalisation. Further suggestions are made in the Teacher’s Guide section.

Skills for Cooperation

The following are the skills for cooperation incorporated into PushyPaddles.

Solving a problem as a group: Players must work together to solve the problem as a group.

Paying attention to others: Players must pay attention to each others actions in order to succeed.

Asking for help: Players must ask for help from each other to play effectively.

Helping others: Players need to help each other, no one player can play the game by themselves.

Taking turns: Players take turns to be on either side or on the floater. They also take turns in dishing out the rewards after the end of each round.



Being a good sport: Occasionally it all goes wrong, players must demonstrate being a good sport and keeping a cool head if things go wrong.

Skills for Friendship

The following are the skills for friendship incorporated into PushyPaddles.

Communicating with others: Players must communicate with each other to coordinate their actions.

Not interrupting others: Players must exercise self control and not interrupt others when following instructions.

Being an active listener: Players must be active listeners and pay close attention to each others instructions.

Skills for Feelings: The following are the skills for cooperation incorporated into PushyPaddles.

Dealing with boredom: At each game round, one player needs to wait patiently whilst the other two players guide their raft.

Dealing with stress: The game can be quite fast paced and player could get stressed out as actions have to be timed perfectly.

Self-control: Players need to exercise self-control and patience with each other as they rely on one another to complete the task.

Screenshots



Figure 5 - PushyPaddles welcome screen with logo. A how to play screen overlays the welcome screen.

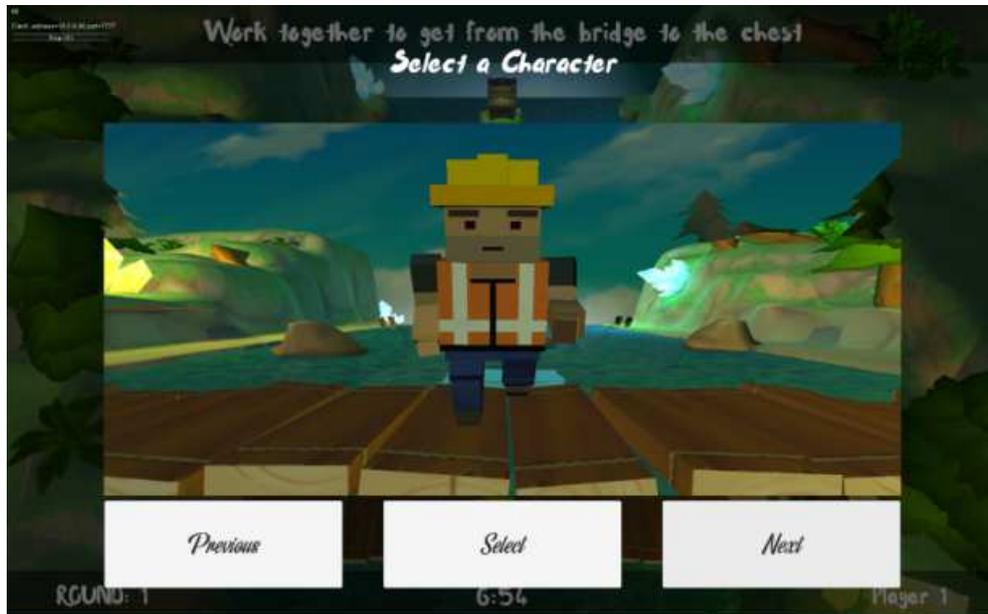


Figure 6 - Players can select which avatar they play as.



Figure 7 - Two players must work together to get the third player across to the other side.



Figure 8 - Players decide who gets which reward.

Teaching Material

Preparation

Explain to students that they'll be working in teams of 3. Where two of the players, the 'paddlers' have to work in tandem to get the 3rd player standing on the 'floater' across the obstacle course. At the end of each round the player on the floater gets to decide who gets which reward. The roles are swapped and the game is made a little bit harder. As part of preparation, highlight some of the key skills needed to succeed in the game and ensure players are aware of their responsibilities to the group.

Debriefing and Discussions

The following are suggested questions for each team about their experiences.

Cooperation Skills

The game incorporates the following cooperation skills; Solving a problem as a group, Paying attention to others, Asking for help, Helping others, Taking turns, Being a good sport. The following are suggested questions for discussion and debriefing.

- How did you work together to solve the problem as a team?
- Did you have to paying attention to each others actions?
- Did you manage to When did you ask for help? What happened?
- Who helped who? Did you help each other?
- When did you take turns? Why is it important to take turns?
- Did it all go wrong sometimes? Who was being a good sport? Why is that important?

Friendship Skills

The game incorporates the following friendship skills; Communicating with others, Being an active listener, Not interrupting others. The following are suggested questions for discussion and debriefing.

- How well did you communicate with each other? Why was it important?
- Did you listen to each other? Why was that important?



- When one player was giving instructions did you manage to stay focused and not interrupt them? Why is that important?

Feeling Skills

The game incorporates the following feeling skills; Dealing with boredom, Dealing with stress, self-control. The following are suggested questions for discussion and debriefing.

- When you were standing on the floater did you get bored? how did you deal with it?
- Did you get stressed out at any point? why is it important to not get too stressed out?
- Did you manage to exercise self-control? why is that important?

Assessment

How the kids are measured in what they've done is currently being developed in conjunction with the pedagogical partners.

Generalisation

Methods to generalise are currently being developed in conjunction with the pedagogical partners.



Appendix III: Redikod prototype game “The Secret Word Game”

Outline

From “Prosocial Scenarios” (Work-in-progress, First design document, May 2016)

Scenario proposal A

Primary Prosocial skill: Collaboration

Description: A collaboration scenario where the players are supposed to build a word out of letters at the schoolyard.

Big physical blocks, letter-boxes with letters are spread out at the schoolyard. Players can only see the letter-box with the letter they have assigned to them.

There’s signs on the ground showing where the final word is supposed to be built, so everyone can see how many letters the word is.

Each player get a letter assigned by the teacher (chat or voice).

Players have to talk to each other and figure out the word, and then each player moves (push?) the letter-box with the letter they have assigned to them to the correct place.

The player can only see and move the letter they have assigned to them.

When a letter is correctly placed it becomes visible to everyone.

When all letters are correctly placed the team wins and get some kind of reward.

Number of players: 2-10 + teacher(?)

Special work needed:

Script: Words for 2 - 10 players(?)

Examples: so, hey, talk, dance, joyful, sharing, learning, introduce, compliment

Assets: Letter boxes with all needed letters

Texture for ground showing where to place the letter-boxes.

Prosocial overview

The Secret Word Game game is based on *collaborative action and mutual goals*. Players must work together to successfully figure out the secret word. *Shared resources* may be introduced, for example through limiting the number of moves allowed. This is possibly an adaptation in relation to the players' demonstrated proficiency, i.e. a player-history (or “offline”) adaptation.

Screenshots

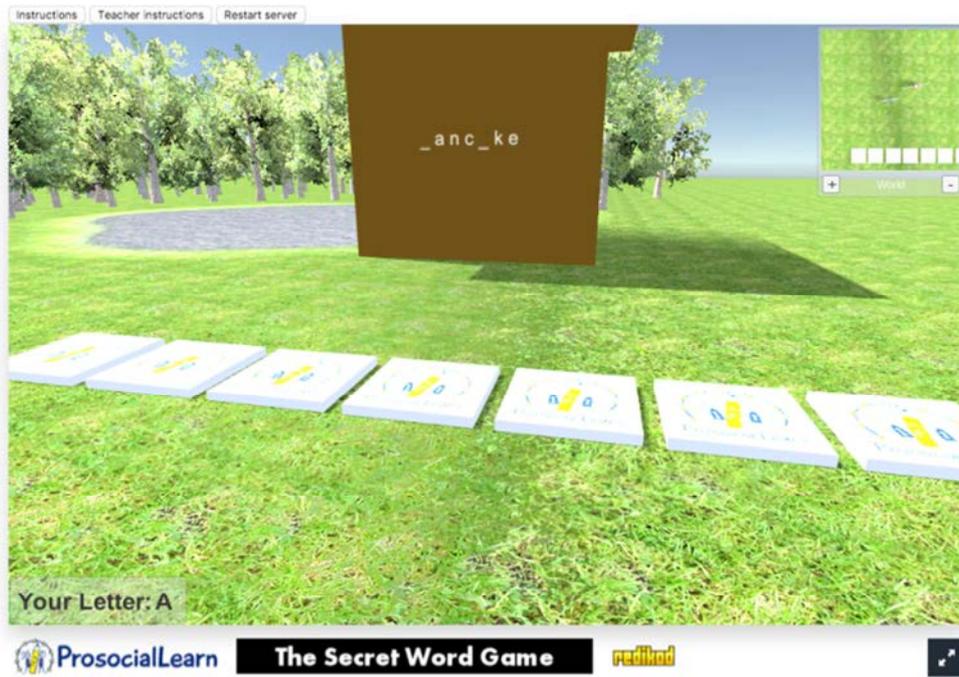


Figure 9 - The player with first-person perspective (John) is assigned the letter "A", and is moving towards the second "A" position in "PANCAKE".



Figure 10 - The current player with first-person perspective (Anders) is assigned the letter "P", reviewing the situation and discussing with other players. We see that John is now in the intended position.



Figure 11 - From yet another player's perspective, we see how Anders and John are in their right positions, and thus the word is indicated as complete and correct.

Teaching Material

The teaching material is in development, and in the following are the current instruction set which is part of that.

Preparation

Teacher Instructions

First enter the game name. If the game doesn't exist it will be created. Make sure that the players enter the same game name so they enter the same instance of the game Then select a nickname. To get privileges to create words start your name with "Teacher". After pressing continue you will enter the game. To access the Control Menu press Esc on the keyboard. Click "New word" to get to the menu to enter the secret word. The secret word popup consists of 2 textboxes, enter the word in the first one and the number of players in the second one.

General Instructions

Click with the mouse where you want to go. You can also move forwards and backwards with the up and down arrow keys or W and S. To rotate the camera either hold the right mouse button and move the mouse, or press the left and right arrow keys or A and D. The goal of the game is to communicate with each other to figure out what the secret word is and then spell it out on the wall. The way you place a letter on the wall is by moving your character onto one of the letterboxes (the white spaces in front of the wall). When a letter is placed correctly it will show on the wall.

Further Teaching Material

Debriefing and Discussions, Assessment and Generalisation material will be developed in conjunction with the pedagogical partners once the first full platform-based testing can commence.



Development notes

This section contains part of the March 15, 2017, submission notes:

Please have a look at <http://psl.redikod.com> To the best of our understanding, it will support Greek alphabet and words from the outset. Looking forward to hearing you verify that.

All instructions necessary (we think) are shown when clicking the "Instructions" and "Teacher instructions" tabs (see below for these instructions).

We're in the process of implementing the voice communication and APIs now, and thus can more speculate on than actually plan the future, but here's our thinking:

Design ideas:

- Introduce limit on number of moves
- Introduce time limit
- Add already correct letters to the wall if the number of people is less than the number of letters in the word.
- Change the way you put letters on the wall so people can have multiple letters. Would also work as a way to not limit the number of letters to the number of players.
- Introduce fake ("wrong") letters (as a harder difficulty). Would also serve to be able to have a shorter word than the number of players.
- Fake letters, time and move limit could be different ways the "offline" (or player-history) adaptation could adjust the difficulty.

"Online" (or real-time) Adaptation:

- If people start making moves before having had time to discuss things, then maybe we should tell whoever made the move to please discuss what the word could be before making their move.
- Could also react if someone makes multiple erroneous moves in a row, and tell him/her to talk with the group and regroup before making more moves.
- Different celebrations when completing a word.

Other:

- Session manager. (Allowing parallel instances of games, not just the single one, as now)
- We are currently working on adding voice chat to the game, but we are having some issues with Unity WebGL limitations and are trying to find a workaround.

Notes:

None of the above can of course be implemented meaningfully before we have our game running on the platform, and thus are able to even start to test and evaluate design ideas and PLO fulfillment.

This section contains part of the April 26, 2017, submission notes, after testing and fixes:

Selected tester comments:

I like the idea of word games as cooperative games where many students have to cooperate to write a word. I think this was a lot of potential and potentially interesting variations. For example, besides



guessing the right word (the current variation), they may try to combine in different groups of students to make as many words as they can. Or, besides having the teacher introduce random words, there could be thematic lists related to prosociality that the teacher can choose from (e.g. words about emotions) or they could create their own lists.

Some general comments:

* it is not very clear to me how this game maps onto specific prosocial skills – this mapping will also help the design to move beyond an ordinary word game, thinking what word games are promising and what rules are appropriate (e.g. your design ideas [...]) from the prosociality perspective.

RK comment: *Nothing more specific has been intended than cooperation and working together.*

*how students coordinate their moving into the boxes appears to be central in the game indeed be the central to the game, however the details of the gameplay are not clear to me. For example, do the players know the letters that the others have? Or, do they see only the correct ones on the wall?

RK comment: *You see your own and those correctly placed. No others.*

* it is not very clear to me how the 3D environment serves the game: why do I need to traverse a lawn to place the letters? In playing, my sense was that (a) the environment created expectations that simplicity of the game did not satisfy; (b) the environment created difficulties for the player (the navigation was hard to control) that were unrelated to the game, they were just frustrating.

RK comment: *This is a tick-in-the-box for delivering Unity-based multiplayer avatar-based 3D games promised in the GA, while also incorporating sensors and the platform. It can certainly be evolved in many ways, but this is still an early prototype even though we've been talking about it for so long. We've been waiting for the platform etc, as you know.*

* I was not able to play from a tablet (I would not get the keyboard interface to type) and I wonder if we have decided on platform for this game (my understanding was that we are going for tablets in the project, but I may be wrong).

RK comment: *Tablets are a general target, yes, but it may be a year or two before they support a browser-based 3D game, we're learning. PC works fine.*

Tester comment:

The instructions as they are written now explain the mechanics of the game and the interface. There needs to be a better explanation for the players (and the teacher) about the purpose of the game, and this description should emphasize the prosocial elements, e.g. communicating and deciding together etc. (see my point above about mapping to prosocial skills).

RK comment: *This is part of lesson plan etc, and that we'll need pedagogical expert support for formulating. Don't forget, our role is to develop games, not do research or teach children things...*

This section contains information on the continuing work on improved, player-editable avatars:

Earlier in the development process, while presenting the first working versions of game to the pedagogical partners, it was pointed out that the “place-holder” avatars used in development were not found suitable for the finished prototype games.

Below are illustrations, showing some of the progress on player-editable 3D avatars. The avatars are also specifically intended, from the outset, to be more appropriate for the target group, setting and theme of the ProsocialLearn prototype games to be used for the early validation studies.

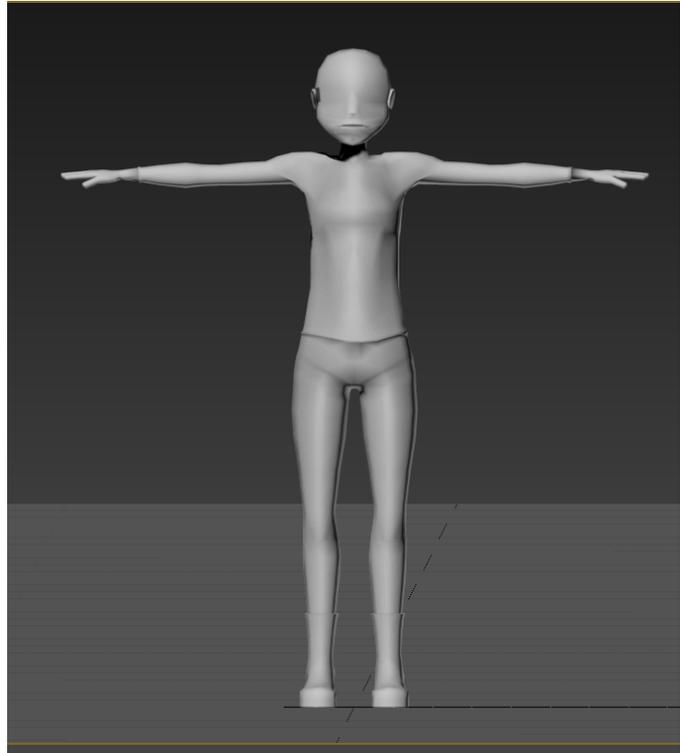


Figure 12 - Sketch basis and resulting 3D mesh for improved avatar design (work in progress)

This section contains information on the current status of the PsL platform implementation:

Table 2 - Key PsL platform features and their integration status for The Secret Word Game

Feature/Component	Status, June 11 2017
Sensors	Followed documentation instructions Waiting for platform integration
Platform integration	Created structure for handling multiple sessions Waiting for current platform integration model
Voice chat	Made successful test for using chat Waiting for sensors to make sure they work together
PAM usage	Waiting for platform integration